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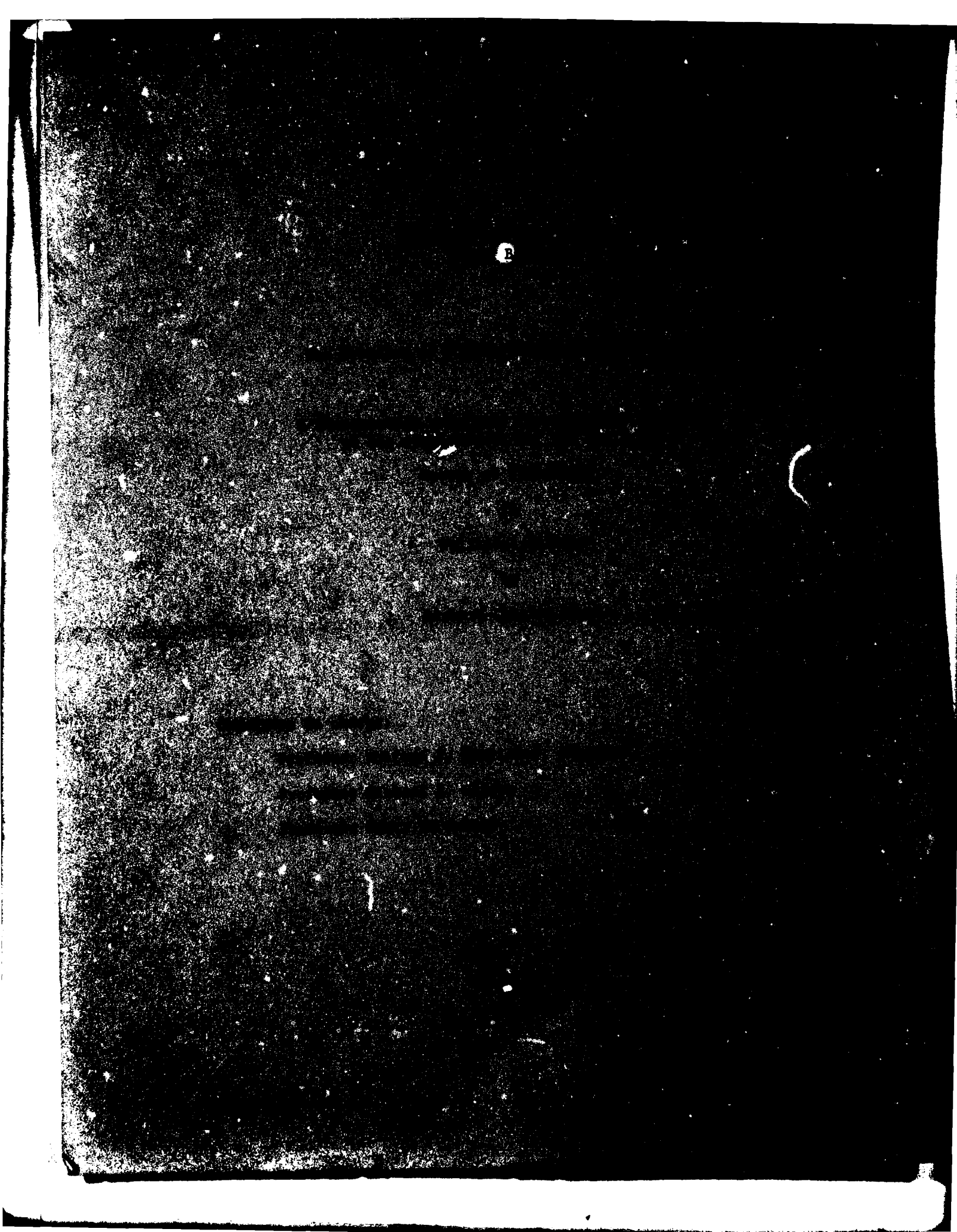
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ABSTRACT

The Politics of Weapons Standardization in NATO

by

Richard Charles Fast

Awareness of the growing conventional imbalance between the Warsaw Pact and NATO led, in the early 1970s, to a search for ways for NATO to regain the lead or at least to balance the Warsaw Pact. Since it offered an appealing logic, standardization of weapon systems within NATO was rapidly embraced as a major means of redressing the balance. Standardization promised increased military effectiveness without increased costs (and, some argued, at lower costs) through reduction of waste caused by duplication of systems.

Standardization was embraced in spite of a 25-year history of failures of similar efforts within NATO. The hypothesis of this dissertation is that this new effort will, likewise, fail to achieve any significant degree of standardization.

Proponents of standardization fail to appreciate that weapons procurements are a low policy (domestic) issue and that weapons procurement decisions have traditionally been made in a disaggregated fashion (by subgovernments). Standardization requires a high policy (strategic) focus in which domestic concerns are secondary.

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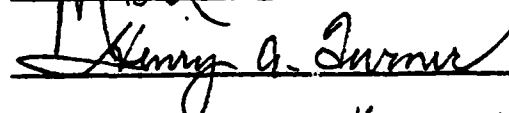
Although most analysts have argued that standardization is desirable (its logic has rarely been challenged seriously), this analysis raises a number of challenges to its desirability. The bulk of the analysis, however, concerns the feasibility of standardization. After reviewing the literature dealing with desirability and feasibility, it presents five case studies: the standardization amendments to the FY 1975-FY 1977 Defense Authorization Acts, the XM-1/Leopard II tank, Roland and MAG-58 procurements, and the Specialty Metals Waiver.

It concludes that joint development or procurement of weapon systems in which standardization is the prime rationale will be largely unsuccessful. While some successes may be achieved under the rubric of standardization, closer examination will often show that some other factor was the impetus and that the "success" would have occurred even were standardization not being advocated.

The problems in implementing standardization are explained quite nicely by the low-high politics/subgovernment framework. Unless weapons procurements can be redefined as high political issues throughout the decision-making arena or the political system altered, removing these issues from the low or subgovernment arena, neither of which is likely to occur, implementation will usually fail.

The dissertation of Richard Charles Fast
is approved:







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July 1981

July 31, 1981

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For the time and energy expended on my behalf and for the insights they provided, I am indebted to my committee members, Professors Henry Turner and Michael Gordon, and to my Chairman, Professor Wolfram Hanrieder. Also, although constraints of a sabbatical made it necessary for him to remove himself from the final committee, I am likewise indebted to Professor Roger Davidson. The support and encouragement of all four were invaluable.

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ABSTRACT

The Politics of Weapons Standardization in NATO

by

Richard Charles Fast

Awareness of the growing conventional imbalance between the Warsaw Pact and NATO led, in the early 1970s, to a search for ways for NATO to regain the lead or at least to balance the Warsaw Pact. Since it offered an appealing logic, standardization of weapon systems within NATO was rapidly embraced as a major means of redressing the balance. Standardization promised increased military effectiveness without increased costs (and, some argued, at lower costs) through reduction of waste caused by duplication of systems.

Standardization was embraced in spite of a 25-year history of failures of similar efforts within NATO. The hypothesis of this dissertation is that this new effort will, likewise, fail to achieve any significant degree of standardization.

Proponents of standardization fail to appreciate that weapons procurements are a low policy (domestic) issue and that weapons procurement decisions have traditionally been made in a disaggregated fashion (by subgovernments). Standardization requires a high policy (strategic) focus in which domestic concerns are secondary.

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CHAPTER I

INTRODUCTION

United States policy towards standardization in NATO was spelled out in 1976 in the "Culver-Nunn" amendment to the Department of Defense Appropriation Authorization Act, 1977. The policy statement notes:

It is the policy of the United States that equipment procured for the use of personnel of the Armed Forces of the United States stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization.¹

The Act further stated the sense of Congress:

It is the sense of the Congress that progress toward the realization of the objectives of standardization and interoperability would be enhanced by expanded inter-Allied procurement of arms and equipment within the North Atlantic Treaty Organization. It is further the sense of the Congress that expanded inter-Allied procurement would be facilitated by greater reliance on licensing and coproduction agreements among the signatories of the North Atlantic Treaty Accordingly, the Secretary of Defense, in conjunction with appropriate representatives of other members of the Alliance, shall attempt to the maximum extent feasible (1) to identify areas for such cooperative arrangements and (2) to negotiate such agreements pursuant to these ends

It is the sense of the Congress that standardization of weapons and equipment within the North Atlantic Alliance on the basis of a "two-way street" concept of cooperation in defense procurement between Europe and North America could only work in a realistic sense if the European nations operated on a united and collective basis.²

While standardization has received the formal endorsement of Congress, implementation of it has not been a smooth process. In

truth, the path has been rocky and is littered with a number of failures. While some projects attempted under the rubric of standardization have been completed, they have been at great political and economic expense, and often with only limited success. The hypothesis of this dissertation is that implementation of standardization will continue to be difficult and that, in fact achievement of any significant level of standardization within the North Atlantic Treaty Organization (NATO) will be impossible.

Evaluation of standardization as a goal must focus on two areas. First, is it desirable and, second, is it feasible. In fact, neither of these questions have received significant attention in the current euphoria with standardization as one of the means of curing NATO's ills. It is assumed to be desirable given the economic savings and military advantages proponents argue will be forthcoming once it is achieved. The logic is unassailable from their viewpoint. The second question, that of feasibility is ignored. Rather, the attitude exists, as recently enunciated by Lieutenant General Lincoln Faurer, USAF, Director of the NATO Military Committee, that the logic of standardization is so irrefutable that we cannot afford not to attempt to achieve it. Although he agreed that it probably cannot be achieved and that continuing to attempt to achieve it may actually undermine the real gains in military capability achievable through interoperability, he still insisted that we "can't afford" not to pursue it!³ This

attitude is shared by the State Department, where Mr. Robert Blackwill, Principal Deputy to the Director of the Bureau of Political Military Affairs, while noting the problems in implementation due opposition from Congress, the military and industry and admitting that standardization is going nowhere, nevertheless argued we had no option but to continue to push it!⁴

Even former President Gerald Ford, while agreeing that, given the world as it is, standardization will never happen, nevertheless argued that as a "policy objective it is essential." Referring to the XM-1/Leopard II competition, while again admitting that no standardization had really been achieved, Ford still argued that it "would have been really bad if we would have never tried."⁵

In fact, the desirability of standardization is not all that irrefutable. Recently a number of challenges to it have emerged and are receiving public attention. Unfortunately, the public debate over standardization policy during the mid-1970s (see Chapter 4) was a well orchestrated campaign by several proponents of standardization which did not allow for serious consideration of arguments opposed to standardization. And, to an extent, many did not want to hear those arguments. On the other hand, the promises offered by proponents (again, the inherent appeal of standardization) led many to dismiss the critics as irrational protectionists. Unfortunately, the emerging criticisms have come too late--the United States is now committed to standardization and will be held accountable for its failures by the Europeans, who see enormous

benefits to their economy from increased United States purchases of European systems.

This then is the second part of the argument; regardless of the desirability of standardization, it will be impossible to achieve. Standardization requires, especially for the United States, significant sacrifices by domestic interests, sacrifices which will be strongly resisted. Further, the implementation of standardization requires the concurrence of Congress. The nature of the United States Congress, however (especially the House of Representatives) makes it sympathetic and susceptible to pressures from these local interests. As a result, every project will face hostile elements in Congress, especially within the House Armed Services Committee (but also increasingly from the Senate Armed Services Committee). While pressures from the Executive branch will, on occasion, be sufficient to overcome the resistance within Congress, the continuing nature of the resistance (Congress will never delegate to the Executive branch its authority and control over weapons procurement decisions but rather will continue to review each individual system as it emerges) and the inability of the high levels of the Executive branch to maintain continued oversight and attention means that implementation will face continuing battles, most of which will be lost. Having made a policy commitment to standardize, these failures will carry immense political implications.

While addressing briefly the arguments both for and against

standardization (desirability), the major focus of this dissertation is on feasibility. The theoretical framework is developed in Chapter III, while Chapter V reviews the substantive literature focusing on the recently developing debate over both desirability and feasibility. Two other chapters define the problem (Chapter II) and trace the history of NATO's attempts to standardize (Chapter IV). Finally, four case studies apply the theoretical framework to several recent and well publicized attempts to standardize weapon systems with European countries.

Footnotes

¹U.S., Congress, Department of Defense Appropriation Authorization Act, 1977, Public Law 94-361, 94th Cong., 2nd Sess., July 14, 1976, Section 802(a)(1).

²Ibid., Sections 802(b) and (c).

³Lieutenant General Lincoln Faurer, USAF, interview held during speaking engagement at the United States Air Force Academy, Colorado, January 23, 1981.

⁴Mr. Robert Blackwill, interview held during speaking engagement at the United States Air Force Academy, Colorado, April 29, 1981.

⁵President Gerald Ford, interview held during speaking engagement at the United States Air Force Academy, Colorado, April 24, 1979.

CHAPTER II

THE PROBLEM DEFINED

Standardization Defined

Standardization itself implies a number of different things. The definition provided by James E. Goodby, Deputy Director, Bureau of Politico-Military Affairs, United States Department of State most clearly spells out the various meanings/implications inherent in the concept:

Rationalization is the 'umbrella term' used to describe any action which makes more rational use of our defense resources both as individual nations and collectively. This includes a better and more efficient division of tasks and missions, standardization of equipment and procedures, and interoperability, or at least compatibility of equipments among Allied forces

We use standardization to cover the adoption of common equipment, doctrine, and procedures among various members of the Alliance. This is the most difficult element of rationalization to achieve, and the most misunderstood concept. Essentially standardization is a long-term undertaking. It starts with coordinated research and development, and a common perception of the future threat together with an agreed approach to how to deal with it.

The term interoperability is used to describe those steps taken to make different equipment more compatible. This includes interchangeable parts and consumables, such as fuel and ammunition, and the ability to cross-service between forces.¹

In this sense, standardization and interoperability, both of which deal with equipment and which this study focuses on, are two different approaches to rationalization, both of which can stand on their own. The Library of Congress report on NATO Standardization notes the differences between the two most succinctly:

Interoperability is not so much an approach to standardization as a supplement and/or alternative to it. . . . Basically, the distinction between standardization and interoperability is that where standardization focuses on efforts to make future weapons and equipment similar, interoperability seeks to make dissimilar weapons or equipment compatible.²

Others have argued, however, that the differences between standardization and interoperability are one of degree rather than of kind and that interoperability is subsumed within standardization. In this view, standardization, as defined by John Walsh, former NATO Assistant Secretary General for Defense Support, "refers to degrees of similarity covering a range from identity (or commonality) through interoperability to compatibility."³ The Department of Defense Glossary of Terms supports this position, defining standardization as:

The process by which member nations achieve the closest practicable cooperation among forces; the most efficient use of research, development, and production resources; and agree to adopt on the broadest possible basis the use of (a) common or compatible operational, administrative, and logistics procedures and criteria; (b) common or compatible technical procedures and criteria; (c) common, compatible, or interchangeable supplies, components, weapons, or equipment; and (d) common or compatible tactical doctrine with corresponding organizational compatibility.⁴

and interoperability as:

The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the the services so exchanged to enable them to operate effectively together.⁵

Although the distinctions made by the Department of Defense and by John Walsh are of some use (and are, some might say, self-serving), they are not, as the Library of Congress study pointed

out, those most frequently used. Standardization has come, through usage, to be synonymous with what Walsh here calls commonality, while interoperability refers both to the ability of systems to interface (as with communications/data systems) and to use common consumables (fuel and ammunition usually, but also other critical replacement parts).

In testimony before a subcommittee of the Senate Armed Services Committee, Secretary of Defense Harold Brown falls into the trap of using interoperability in both senses, although emphasizing the distinct nature of the two concepts:

Broad standardization in particular cannot be achieved at any early date because many Allies have already spent huge sums of money on existing systems and those in advanced development that cannot be efficiently discarded in the short run. Indeed complete standardization is not essential in many cases. Interoperability, which is much easier to achieve, should suffice. Moreover, it is a desirable halfway house to eventual standardization.⁶

And Mr. James Goodby, Bureau of Politico-Military Affairs, Department of State, views the two as distinct concepts:

NATO efforts are being concentrated on interoperability because a number of the European Allies wished to defer NATO debate on the more general (and more difficult) subject of standardization pending the outcome of their own effort in the EPG to organize the European side of the standardization equation.⁷

Thus it is clear that, as the House Armed Services Special Subcommittee on NATO Standardization, Interoperability and Readiness (hereafter referred to as the House RSI Subcommittee) points out that:

There are two sets of definitions for standardization and interoperability: The official definitions which are ignored; and the highly individualized intuitive definitions everyone uses. These intuitive definitions have produced confusing and often conflicting guidance for translating policy into action.⁸

In summary then, interoperability is seen by many as two things--both as an alternative to standardization and as a point on a broad spectrum of standardization. But in almost all cases, the term standardization itself does not include the possibility of interoperability. It is clear from the testimony noted above that United States' officials perceive a standardized system as interoperable, but do not see interoperable systems as standard, this in spite of official DOD definitions to the contrary. This implies that, to these officials, standardization means commonality and that an interoperable system is something less than a standardized system. Interoperability then is perceived as an alternative to standardization only in limited cases or as a temporary substitute (half-way House) for standardization in other cases.* This then leads to the conclusion that commonality in reality is the ultimate goal of United States standardization policy. My contention is that this is indeed what standardization means to most proponents and that the compromise position of interoperability which in many cases can, as will be argued below,

* Whether interoperability can really be a halfway house is also questionable--it implies that interoperability leads to standardization--another possibility is that interoperability does not lead to standardization, but is a means of (a) avoiding standardization and (b) leads to further destandardization.

provide the desired military benefits without the enormous political/economic costs of full commonality is not an acceptable alternative to these proponents of standardization.

To avoid this confusion, standardization throughout this work will mean commonality while interoperability will be defined as the ability of systems to interface and to use common consumables.

Clarification of this confusion over terms is important because of the vastly different implications of standardization and interoperability. Interoperability, while providing significant military benefits does not yield the macro-economic benefits of full standardization (commonality) nor does it engender the political opposition that does standardization (pursuit of commonality). Thus the focus on standardization as official United States' policy (meaning commonality exclusively) has immense implications beyond the acceptance of interoperability as a potential substitute for commonality. The House RSI Subcommittee noted one implication of the development of the two into distinct concepts:

They have also resulted in a division of labor. Standardization has emerged as the special province of civilian, industrial, and administrative military leadership, while interoperability has been the principal concern of military commanders.⁹

This observation reinforces the distinction between the potential benefits of the two approaches to rationalization. The operational military is satisfied with the military benefits possible through interoperability, while the higher levels in the military and other levels in government and industry (to the extent

industry supports the policy) look to the political/economic benefits perceived available through standardization.

From another perspective, the pursuit of standardization over interoperability emphasizes the true nature of the issue--that is, its political-economic nature. The willingness to incur the political costs connected with standardization (interoperability has very low political costs) indicates that some important political-economic goals beyond merely improving the military effectiveness of NATO forces are involved. While this itself is not particularly enlightening, the precise nature of these goals is interesting. For as will become apparent in Chapters IV and V, the methods by which the United States has chosen to implement standardization mean that no economic or military benefits will accrue to the United States in the near future, or to any great extent (if at all) in the long term. In fact, as will be argued, economic costs may be higher and military effectiveness lowered. The benefits will accrue to the European members of NATO through a larger share of the defense market. Thus, while the goal of standardization goes beyond military effectiveness (for which interoperability would be sufficient), it also goes beyond cost efficiency (at least from a micro-United States viewpoint, with cost efficiency defined as concern with the most efficient use of the military budget). The goal thus becomes a political-economic one of buying off Europe. As will be argued, this is why the policy will fail. The United States Congress (especially the

House) will not buy off on standardization programs unless gains in military effectiveness or cost efficiency are realized for the United States. Only in these cases can Congress be expected to risk the domestic political and economic costs associated with cooperative weapons efforts.

To summarize then, pursuit of interoperability in areas such as the development of a common caliber for small arms ammunition is a relatively simple problem; it poses no major challenge to national industries. On the other hand, standardization of doctrine, strategy and tactics, which must precede standardization of equipment raises more complex issues. National tradition, culture, history, goals and interests have all combined over years to shape what each nation sees as the proper way to provide for its security. Further, as we are beginning to realize more clearly, technology plays an important role in defining military/political objectives; the types of weapon systems the domestic industrial structure can provide plays an important role in the formation of that nation's military doctrine. Hence attempts to standardize doctrine begin to challenge important domestic concerns. Finally, standardization of major systems with all members sharing identical equipment, has immense domestic and international implications. It may be that the military effectiveness of NATO may be more usefully served by progress on low-level interoperability and by standardization of doctrine. In any case, standardization of doctrine (and of threat perceptions) is certainly necessary before the standardization of

major systems is possible.

The Need

Why is it argued that standardization within NATO is necessary? Ironically, that question itself has not been directly addressed by proponents of standardization. What suffices for an answer is a cataloging of the current diversity of weapon systems in NATO, allowing the mere fact of diversity to demonstrate the need. In Chapter V, a more thorough evaluation of the actual effects (benefits and costs) of standardization will be made. For now, a review of the "number" arguments as presented by proponents will suffice.

The economic figures presented by Thomas Callaghan, a private consultant who prepared a report on United States/European cooperation for the State Department in 1974 which proposed an ambitious scheme for an Atlantic-wide common market in defense and civilian technology and procurement, are the most extreme; he places the cost of weapons duplication at some \$11 to \$12 billion annually out of the \$90 billion devoted yearly by NATO nations to research, development and production of weapons systems.¹⁰ The Department of Defense's estimates go as high as \$6 billion.¹¹

On a military level, General Andrew J. Goodpaster, former Supreme Allied Commander in Europe has estimated that standardization could increase NATO's military effectiveness by between 30 percent and 50 percent for most units, and by up to 300 percent

in case of some tactical air units that could not refuel or rearm on other members' airfields.¹² Others have pointed to the duplication in aircraft, anti-tank systems, tanks, communications systems and guns, which they argue, complicate tactics and logistics and, above all, military effectiveness.

The NATO navies have 100 different ships of destroyer or larger classes, 36 different types of radars for fire control, and 40 different types of guns of 30 mm or larger caliber. NATO forces at sea cannot replenish expended weapons unless each nation's own logistics replenishes its own forces. Fuel for NATO tactical aircraft has been standardized but there is not yet standard equipment for transferring the fuel into the fighters. And many airfields, NATO and national, can only resupply and reload aircraft from that country, meaning that if a plane landed after expending its munitions, it may not be able to take off again. Guns are not of uniform caliber; command and control systems differ. In short, each ally must have its own logistics tail and inventory of spare parts.¹³

General Goodpaster likewise noted the existence of:

- 23 kinds of combat aircraft
- 7 kinds of tanks
- 8 kinds of armoured personnel carriers
- 22 kinds of anti-tank weapons.¹⁴

Others have identified over 100 tactical missile systems¹⁵ currently operated by NATO members. And the NATO elite seven-nation Allied Command Europe (ACE) Mobile Force (AMF), designed to show the cohesion of the NATO Alliance, itself suffers from lack of collaboration, as Senator Dewey Bartlett (R-OK) points out:

One commander of NATO's elite, seven-nation Allied Command Europe (ACE) Mobile Force (AMF) believed that standardization would have permitted him to cut by half his unit's deployment time, aircraft requirements, and logistics personnel. His five-thousand-man ground force was armed with six different recoilless rifles, four different antitank missiles, and three different mortars, machine guns, and rifles. Air support was

provided by seven different types of combat aircraft. The AMF, designed to show the cohesion of the NATO alliance, symbolizes the problems created by lack of proper standardization.¹⁶

Senator Bartlett, a strong proponent of standardization efforts, also cites additional figures:

NATO presently fields thirty-one different antitank weapons, while eighteen more are under development. Yet experts have said that five kinds of antitank weapons could suffice. NATO currently operates with seven different tanks, eight different armoured personnel carriers, twenty-four families of combat aircraft, and approximately 100 different kinds of tactical missiles. At sea, NATO stations six kinds of antiship missiles, eight different surface-to-air missiles, and thirty-six different fire control radars. NATO uses fifty different kinds of ammunition with forty-one of those over 20 mm. Until recently, seven NATO nations were also about to introduce six different, incompatible tactical communications systems. Even the feeding of troops suffers from a lack of standardization. American "A" and "B" rations cannot easily be used by the Germans, who lack field ovens, or by the Canadians, who find the packages far too large for the squad-size cooking they favor.¹⁷

Finally, an old NATO hand, the former chairman of NATO's Military Committee, General Johannes Steinhoff has described the NATO inventory of arms as a "military museum."¹⁸ In an interview in February of 1979, the General indicated that very little improvement had been made in the five years since he had made that observation. As he noted, standardization will be possible only when Europe becomes united--as long as a number of separate economies exist, competition will preclude progress towards standardization.¹⁹

Pointing to this duplication, proponents of standardization argue that "standardization could improve NATO's combat capabilities and result in more efficient use of resources directed towards

NATO's defense.²⁰ Specifically, the General Accounting Office notes, proponents of standardization argue four advantages:

- Operations and training of separate forces could be better coordinated.
- Forces of the Alliance could draw on each other's stocks and use each other's repair service.
- Some aspects of logistics management could be consolidated and logistics costs lowered.
- Costs now incurred because varieties of weapons serving the same of similar purposes are being produced could be eliminated.²¹

As will be argued later, however, the advantages cited are largely theoretical. Very little systemic research has been applied to the problem to measure if the payoffs argued are realizable or even if they are real.²² In fact, a number of critics have begun to argue that standardization may actually be counterproductive from both a military and an economic standpoint. In addition, as I will argue, it may be counterproductive politically.

Nevertheless, on these foundations have been built the rationale for a major United States policy commitment to NATO standardization.

The Standardization Problem

While the lack of standardization systems is not a totally new problem for NATO, it is one for which concern has grown in recent years. As Secretary of Defense Donald Rumsfeld noted in a report to Congress on standardization in 1976, "In its early days, the Alliance maintained a high degree of standardization because the United States provided most of the equipment."²³ The United States,

however, pursued a number of policies which resulted in a growing diversity of weapon systems. First, as part of the rebuilding of Europe, the development of indigenous defense industries was encouraged. And second, as a result of United States restrictions on government procurement of foreign equipment (the 'Buy American' laws) no incentive existed within Europe to rationalize national industries with each other in order to sell to the United States.²⁴ The result has been fractionalized European defense industries which have resulted in a lack of coordination in research and development and procurement throughout the Alliance and the growing destandardization of NATO.

By the mid-1960s, concern began to develop over the trend towards destandardization, largely due to an emerging conventional threat from the Warsaw Pact as the United States' nuclear guarantee for Europe was offset by a growing Soviet nuclear capability. In spite of growing concern, however, attempts at standardization within NATO (e.g., the subscription of member nations to some 600 standardization agreements or STANAGS) resulted in only minimal success due to the lack of a political will to implement the agreements.²⁵

The last few years, however, have heralded a new awareness of the problem. A rapid buildup of Warsaw Pact forces (especially tanks) has led to a reappraisal of the effectiveness of the NATO forces. This has been aided by the end of United States pre-occupation with Southeast Asia. Likewise, financial pressures due

to worldwide recession and heavy inflation have resulted in growing pressures on defense spending, encouraging a more effective utilization of the defense dollar throughout NATO. The increasing sophistication and cost of weapon systems has exacerbated the problem; excessive duplication is a growing financial problem while sophistication of systems makes interoperability with other similar systems even more of a problem than previously.

A recent report by the House Government Operations Committee emphasizes the growing interest:

The standardization of North Atlantic Treaty Organization military equipment has been a goal of the NATO Alliance since 1949 when the Military Production and Supply Board was created to promote 'coordinated production, standardization and technical research in the field of armaments.' Then, as now, there was agreement on the need to have the Allied forces able to operate together. Until recently, however, there has not existed a compelling military rationale for developing an integrated and coherent conventional defense structure within the Alliance. The fact that the United States and Russia are now in a position of nuclear parity, requires that the conventional force posture of NATO be substantially strengthened to provide a credible nonnuclear deterrent. The United States, Canada, and the Western European Allies have as yet been unable to bring about the political, economic and military changes required to effectively strengthen the conventional forces of NATO.

The significant and continuing increases in the conventional force strength of the Warsaw Pact over the past decade have forced a reexamination of NATO's capability of deterring aggression in Western Europe. This reexamination has focused needed attention on the problems facing NATO and is the necessary first step in dealing effectively with NATO defense issues.²⁶

A critical catalyst in the growing Congressional interest has been the interest of Senator Sam Nunn (D-GA). In two reports to Congress, the first in early 1974, Senator Nunn identified a number

of problem areas, largely in the conventional area, which caused him to question the viability of the NATO defenses. In his first report, "Policy, Troops and the NATO Alliance," he identified five problem areas:

At present, although resources are roughly equal, the NATO conventional defense posture is somewhat inferior to the Warsaw Pact because:

- (1) the difference in deployment assumptions within NATO (i.e., long war vs. short war and linear defense vs. mobile defense to meet quick thrusts) is inefficient for structuring forces and providing support.
- (2) the diversity and differences of equipment and operations among NATO forces weakens their overall power and ability to work together.
- (3) the long years of reliance on the U.S. nuclear crutch have given NATO psychological conventional inferiority.
- (4) the failure of the Alliance to coordinate support and logistics leads to a wasting of NATO resources and a weakening of conventional capability.
- (5) the French insistence on ordering 'a la carte' from the NATO menu (i.e., accepting the benefits but not the burdens), weakens NATO and causes uncertainty as to what to expect from French forces. This contributes to the pessimism on NATO's conventional capability, and threatens to spread to the smaller NATO countries.²⁷

And in the celebrated report based on his 1976 trip with Senator Dewey F. Bartlett (R-OK), "NATO and the New Soviet Threat," the two strongly endorsed standardization and interoperability as essential military tasks for the Alliance:

Finally, interoperability of arms and equipment within the Alliance must be relentlessly pursued. NATO can no longer afford to pay the stiff military and economic price of dependence upon a museum of national armaments inventories incompatible with one another. Lack of interoperability serves the interests only of the Warsaw Pact. Although progress has been made much more needs to be done.

Serious consideration should be given to establishing within each ministry of defense powerful bureaucratic constituencies committed solely to achieving standardization and interoperability. For the Department of Defense, this might entail

creation of an office of standardization in both the Office of the Secretary of Defense and with each service. The institutionalization of the impetus toward standardization would provide a major counter-weight to contrary parochial-political and economic interests. Progress toward comprehensive Alliance-wide interoperability of arms and equipment can be facilitated by the development of a common tactical doctrine and by testing it through joint exercises. Ultimately, however, progress will require discarding of the notion that logistics should be exclusively a national responsibility.²⁸

Nunn's concern was directly translated into action in a series of amendments (the Nunn and Culver-Nunn Amendments) to the Department of Defense Authorization Acts from 1975 to 1977. At the same time, the Department of Defense, under the prodding of a number of private and government officials was likewise showing increased interest in the military benefits to be gained through a rationalization of the defense effort in Europe. Three key actors were Robert Komer, a Rand employee who was also serving as a consultant to the Secretary of Defense, Harold Brown and who would later hold formal posts directly under Brown; Major General Richard Bowman (USAF), Director of the European Region, Office of the Assistant Secretary of Defense, International Security Affairs, who previously had served as Deputy Defense Advisor to the United States Ambassador to the North Atlantic Alliance (1973-1975); and Robert A. Basil, Assistant Director of Defense Research and Engineering. All were keenly concerned with the balance of conventional forces in Europe and all were avid proponents of standardization as a means of correcting that balance. Within the State Department, a small group under the direction of George Vest, then Director of the Bureau of

Politico-Military Affairs, was becoming increasingly concerned with the problem, although from a political-economic viewpoint. Acting as a catalyst for all of these was Thomas Callaghan. Callaghan was the first to publicize the concept of the "two-way street," which would soon become the primary vehicle for implementation of standardization.

The two-way street, as proposed by Callaghan, has come to symbolize the current effort to standardize. Or rather, it has become the criteria against which the United States' commitment to standardization is being measured.

Implicit in the debate over and ultimate endorsement of the two-way street in NATO defense procurement has been the belief, at least in Europe, that the two-way street will mean just that--a more equal flow of defense goods between the United States and Europe. The flow of military equipment has clearly been one-way; during the 1960s, the United States sold some \$8 billion worth of military equipment and purchased only \$700 million in return.²⁹ Europe has demanded that this flow be balanced more equitably. In 1976, Mr. Carl Damm, a member of the German Bundestag and representative to the North Atlantic Assembly, emphasized this in testimony before the Senate Armed Services Committee.

It is important for the United States to realize that Europe will be unable to buy quantities of United States equipment unless a more reciprocal balance is established, and the United States gives serious consideration to items of European design.³⁰

Even more explicit was the linkage he drew between increased United States purchases from Europe and European purchases of the Airborne Warning and Control System (AWACS).

To speak quite frankly: I personally do not see any possibility for the Federal Republic of Germany to take part in the AWACS program unless the U.S.A. spends a corresponding amount on German tanks. This would be a fair deal, a 'two-way street.'³¹

Although the Leopard II/AWACS linkage was not totally successful (some of the linkage was salvaged in the agreement eventually to arm the U.S. XM-1 tank with a German designed and licensed 120 mm gun), German participation in the AWACS program has since been linked to United States purchases of other European systems.³² In short, it is clear that the Europeans expect a more equal exchange of defense equipment, with specific quid-pro-quo's arranged on a case-by-case basis.

From the United States' side has come both a presidential policy endorsement of the two-way street and an explicit recognition of the economic implications of that policy. President Carter, in May 1977, told NATO heads of state at a North Atlantic Council meeting that:

. . . the United States must be willing to promote a genuinely two-way transatlantic trade in defense equipment. My Administration's decisions about the development, production, and procurement of defense equipment will be taken with careful attention to the interests of all members of the Alliance. I have instructed the Secretary of Defense to seek increased opportunities to buy European defense equipment where this would mean more efficient use of allied resources. I will work with the Congress of the United States to this end.³³

In testimony before the House Armed Services Committee's

Special Subcommittee on NATO Standardization, Interoperability and Readiness, Mr. Robert W. Komer, then Advisor to the Secretary and Deputy Secretary of Defense on NATO Affairs, noted:

I think we are kidding ourselves if we think Europe will keep buying as much from us if we don't buy more from them. The handwriting is on the wall as far as this problem is concerned.

The British, the Germans, the Belgians, the Norwegians, the Canadians, and the Dutch have put us very clearly on notice. There is a debate going on right now in the Bundestag. In their defense committee they are saying, 'Why should we subscribe to AWACS unless the Americans will buy more other equipment from us and give us offsets for our contribution to their program.'³⁴

Although it is clear that no one really expects the amounts in both directions to be exactly equal, what is not clear is what each will accept as satisfactory. Mr. Komer's view, for example, may not go far enough to satisfy most Europeans:

Without going into the details on AWACS I simply cite that as an example of the sort of problem we run into. Either we're going to give the allies a somewhat bigger share of our market or they're going to increasingly go for their own equipment, even if ours is better and cheaper. It's as simple as that, because we do the same thing.

Therefore, either we're going to do a little more business with Europe or they're going to do a lot less with us, in which case we're going to lose a lot more jobs, we're going to lose a lot more profits than by buying and licensing some things from Europe where they are competitive and their technology is up to snuff.³⁵

Both the policy commitment of the United States to standardize and the European expectation that the United States will standardize (and hence, buy more from Europe) are clear. To support continued European purchases of United States weapon systems will thus require more than symbolic United States purchases of European systems. Failure to follow through on our commitment to

purchase European systems will mean growing suspicion and distrust with NATO. My contention is that the resulting political damage could possibly be more dangerous to NATO than the lack of standardization and resulting military inefficiencies which have been used as arguments to support the need for the policy.

Approaches to Standardization

Four distinct approaches to standardization can be identified. While variants exist, all are derivatives of the four. The four are: direct purchase, competitive research and development with licensed production (either co-production as with the F-16 or dual production as with the Roland), cooperative research and development with licensed production and interdependent research and development with licensed production. A brief discussion of each follows.

Direct Purchase

Direct purchase is the optimum approach for achieving military effectiveness and cost savings. It guarantees standardization and avoids both duplicative research and development costs and the costs of setting up a second production base. It, however, has serious disadvantages; three stand out:³⁶

- (1) it impinges on national balance of payments, especially when focusing on single projects,
- (2) it entails losses in domestic employment,
- (3) it requires reliance on foreign sources for spare parts and logistics support. This creates problems both during periods

of peace and war.

The first two problems raise the question of balance of payments which will be addressed below. The two-way street, as proposed by Thomas Callaghan, is an attempt to address these problems by requiring full and equal offsets on the military account.³⁷ However, the Department of Defense rejects this approach as anti-competitive and contends that it would lead to "cost inefficiencies and a loss of qualitative superiority."³⁸

The third disadvantage has been highlighted by problems associated with foreign logistics support in the United States Marine's purchase of the Harrier aircraft from the United Kingdom which have reinforced the Department of Defense's attitude towards direct purchase proposals, especially for major systems.

Competitive Research and Development with Licensed Co-Production

Both the Department of Defense and the Congress have embraced this concept as the preferred means of achieving standardization. This approach, it is argued, avoids all three problems associated with direct purchases.³⁹ A variant of this approach, also endorsed by DOD calls for dual production rather than co-production (with co-production, each partner produces less than all of the parts of the system and cooperates on final assembly--thus some specialization as well as cooperation exists; with dual production, each partner produces all the parts and assembles the final system independent of the other).

This approach is clearly a compromise between direct purchase and separate national programs. The economic costs of standardization are higher than with direct purchase because duplication of research and development is not eliminated, nor are economies of scale totally achieved. However, it is preferable to the costs (both economic and military) of totally separate national programs duplicating the same systems. Standardization is achieved, in theory, without challenging important domestic interests.

Some problems do exist, however. One of the major concerns involves problems associated with technology transfer, involving both industrial concerns with competitive advantage and national concerns with security. Another concern involves loss of national control over the program; for example, sales to third world countries must be cleared by all members of a consortium. Other problems associated with this approach are discussed in Chapter V.

Cooperative Research and Development with Licensed Production

This approach "entails two or more states teaming up to design common equipment from scratch."⁴⁰ Widely used in Europe, it does provide economic benefits over a system of separate national research and development programs; however, it offers little broader promise of success. Among the problems associated with it are:⁴¹

(1) the difficulty of achieving agreement on requirements and doctrine during the design stage. For example, both the MBT-70 and the current European cooperative aircraft project, the Tornado

(or Multi-Role Combat Aircraft--MRCA) became increasingly complex and expensive as the inability of the partners to reach agreement on requirements led to the system being designed to do everything. Eventually the MBT-70 was scrapped; the Tornado went ahead and is now flying but with much greater complexity and variations, and with fewer partners than the program started with.⁴²

(2) The increases in cost and time associated with cooperative programs. The following formula's are generally agreed on for predicting the increased cost and time: costs are increased by the square root of the number of participants and the time required to complete the project is increased by the cube root of the number of participants.

(3) The practical limits on the number of participants. Experience indicates that two or three may be the optimum number.

(4) The necessity for integration of European industry before such cooperation is feasible.

Interdependent Research and Development
with Licensed Production

This final approach has been endorsed by the Department of Defense under the Family of Weapons concept. Called "Interdependent Research and Development" by a General Accounting Office study,⁴³ it calls for all research and development work to be unilaterally funded and performed by one nation with the product made available to all (under various licensing approaches). The Family of Weapons concept (to be discussed in Chapter IV) calls for agreement

among the NATO members to split up responsibility for various members of a "family of weapons" (for example, air-to-air missiles). A different country would be assigned responsibility for each of the several members of the "family" (i.e., short-range, mid-range, and long-range air-to-air missiles). The other members of the Alliance would agree not to compete in that area.⁴⁴

The advantage of this approach is that it reduces the cost of duplicative research and development. The approach would still be more expensive than direct purchase because of the multiple production lines (or co-production) but cheaper (more cost effective) than either competitive or cooperative research and development.

The largest criticism of the approach is that it is non-competitive (anti-free enterprise) and that it will therefore lead to lower quality equipment.⁴⁵ The approach also assumes agreement within the Alliance on requirements and doctrine, the same problem faced in cooperative programs. Other problems associated with this approach, coming into favor as part of the Department of Defense's triad of cooperative actions, will be discussed in Chapter V.

Although other approaches may be utilized from time to time, they all are variants of one of the above four approaches. In summary, while the first approach is clearly the most efficient from a military and macro-economic viewpoint, it has the highest political-economic costs and is impractical for political reasons. The second approach, competitive research and development with licensed production is the most appealing for a host of political

and economic reasons. It is thus the most practical. The third, cooperative research and development introduces the major problem of cooperation in research and development, which experience indicates, causes significant problems. Finally, although very appealing, the fourth approach, interdependent research and development, raises the potential of serious challenges from domestic interests who perceive themselves as arbitrarily excluded from competition.

In conclusion, while the second approach appears most appealing on an initial evaluation, the most important question is left unasked; that is, should standardization itself be pursued and can it be achieved; that is, is it desirable and is it feasible? While the Department of Defense has clearly opted for a combination of approaches two and four, problems exist with both which are endemic to standardization itself. These are addressed in Chapter V and in the case studies.

Footnotes

¹U.S., Congress, Senate, Committee on Armed Services, European Defense Cooperation, Hearing before the Subcommittee on Research and Development and the Subcommittee on Manpower and Personnel of the Committee on Armed Services, United States Senate, 94th Cong., 2nd Sess., March 31, 1976, pp. 36-37.

²U.S., Congress, Library of Congress, NATO Standardization: Political, Economic, and Military Issues for Congress, Report to the Committee on International Relations, House of Representatives by the Foreign Affairs and National Defense Division, Congressional Research Service, Library of Congress, 95th Cong., 1st Sess., March 29, 1977, p. 40.

³John B. Walsh, "Initiatives in Standardization/Interoperability, NATO Review 26 (October 1978), pp. 8-9.

⁴U.S., Congress, House of Representatives, Committee on Armed Services, NATO Standardization, Interoperability and Readiness, Report of the Special Subcommittee on NATO Standardization, Interoperability and Readiness of the Committee on Armed Services, House of Representatives with Additional Views, (HASC No. 95-101), 95th Cong., 2nd Sess., March 1979, p. 49.

⁵Ibid.

⁶U.S., Senate, Committee on Armed Services, NATO Posture and Initiatives, Hearing before the Subcommittee on Manpower and Personnel of the Committee on Armed Services, United States, Senate, 95th Cong., 1st Sess., August 3, 1977, p. 10.

⁷Senate Armed Services Committee, Hearing on European Defense Cooperation, p. 155.

⁸House Armed Services Committee, Report on NATO Standardization, p. 10.

⁹Ibid.

¹⁰ Thomas A. Callaghan, Jr., United States/European Economic Cooperation in Military and Civil Technology, Revised Edition (Washington: The Center for Strategic and International Studies, Georgetown University, September 1975), pp. 21-27.

¹¹ Samuel Morthland, et al., Collaborative Weapons Development for NATO: A Debate (Washington: National Defense University, Industrial College of the Armed Forces, 1976), p. 3.

¹² Paul Lewis, "World War II is Over, but the Standardization Battle Has Just Begun," National Journal 8 (September 4, 1976), p. 1240.

¹³ U.S., Congress, Senate, Committee on Armed Services, Authorizing Appropriations for Fiscal Year 1975 for Military Procurement, Research and Development and Active Duty, Selected Reserve and Civilian Personnel Strengths, and for Other Purposes, Report to accompany S-3000 (Senate Report 93-884), 93rd Cong., 2nd Sess., May 29, 1974, pp. 139-140.

¹⁴ Robert A. Basil, "NATO Must Standardize," National Defense 62 (November-December 1977), p. 209.

¹⁵ Morthland, et al., Collaborative Weapons Development for NATO, p. 2.

¹⁶ Dewey F. Bartlett, "Standardizing Military Excellence: The Key to NATO's Survival," in NATO Arms Standardization: Two Views, AEI Defense Review Number 6 (Washington: American Enterprise Institute for Public Policy Research, 1977), p. 3.

¹⁷ Ibid., p. 4.

¹⁸ D. C. R. Heyhoe, The Alliance and Europe: Part VI, the European Programme Group, Adelphi Paper #129 (London: The International Institute for Strategic Studies, 1977): p. 4.

¹⁹ General Johannes Steinhoff, interview held during speaking engagement at the United States Air Force Academy, Colorado, February 8, 1979.

²⁰U.S., Congress, General Accounting Office, Standardization in NATO: Improving the Effectiveness and Economy of Mutual Defense Efforts, Report to the Congress by the Comptroller of the United States, Report PSAD-78-2, January 19, 1978, p. 6.

²¹Ibid.

²²Robert A. Gessert, "The Economics of NATO Standardization," paper prepared by Robert A. Gessert, General Research Corporation, McLean, VA, November 1977, pp. 13-14.

²³U.S., Department of Defense, Rationalization/Standardization Within NATO, Second Report, January 1976, A Report to the United States Congress by Donald Rumsfeld, Secretary of Defense, January 31, 1976, pp. 49-50.

²⁴Lewis, "World War II is Over," p. 1240; the later point illustrates that if European industry is to compete with United States industry, some European cooperation is probably essential in order to provide competitive economies of scale.

²⁵Department of Defense, Second Report on Rationalization, pp. 45-46.

²⁶U.S., Congress, House of Representatives, Committee on Government Operations, Interim Report on the Standardization and Interoperability of NATO Military Equipment, Fifteenth Report by the Committee on Government Operations (House Report 95-806), 95th Cong., 1st Sess., November 3, 1977, pp. 1-2.

²⁷U.S., Senate, Committee on Armed Services, Policy, Troops and the NATO Alliance, Report of Senator Sam Nunn to the Committee on Armed Services, United States Senate, 93rd Cong., 2nd Sess., April 2, 1974, p. 6.

²⁸U.S., Congress, Senate, Committee on Armed Services, NATO and the New Soviet Threat, Report of Senator Sam Nunn and Senator Dewey F. Bartlett to the Committee on Armed Services, United States Senate, 95th Cong., 1st Sess., January 24, 1977, p. 20.

²⁹Senate Armed Services Committee, Hearing on European Defense Cooperation, p. 12.

³⁰Ibid., p. 14.

³¹Ibid., p. 5.

³²House Armed Services Committee, Report on NATO Standardization, p. 20.

³³Weekly Compilation of Presidential Documents, NATO Ministerial Meeting, President's Remarks at the First Session, May 10, 1977, Vol. 13, Number 20, pp. 699-700, quoted in House Armed Services Committee Report on NATO Standardization, Interoperability and Readiness, p. 23.

³⁴U.S., Congress, House of Representatives, Committee on Armed Services, NATO Standardization, Interoperability and Readiness and H.R. 12837, Hearings before the Special Subcommittee on NATO Standardization, Interoperability and Readiness of the Committee on Armed Services, House of Representatives, (HASC 95-72), 95th Cong., 2nd Sess., March 14, 1978 (1979?), pp. 494-495.

³⁵Ibid., p. 495. The discussion of the two-way street up to this point has ignored the question of whether it should include more than just arms trade. The inclusion of all defense-related goods and services creates a much different balance, one which favors Europe. The Committee Report has a good discussion of this issue on pp. 21-22.

³⁶The following three points are elaborated on in Library of Congress, NATO Standardization: Political, Economic and Military Issues for Congress, pp. 35-36.

³⁷Ibid., p. 37.

³⁸Ibid.

³⁹Ibid.

⁴⁰Ibid., p. 39.

⁴¹These four points are identified and elaborated on in Ibid., pp. 39-40.

⁴²Paul Lewis, "Europe's Fighter Jet Program," New York Times, November 13, 1979, p. D-1.

⁴³U.S., Congress, General Accounting Office, Benefits and Drawbacks of U.S. Participation in Military Cooperative Research and Development Programs with Allied Countries, Department of Defense, Report to the Congress by the Comptroller General of the United States, Report B-167034, June 4, 1974, pp. 27-28.

⁴⁴House Armed Services Committee, Report on NATO Standardization, p. 27.

⁴⁵Ibid., p. 28.

CHAPTER III

INTERDEPENDENCE, HIGH-LOW POLITICS AND
THE SUBGOVERNMENTS

Any effort to understand the problems of standardization requires the development of a framework within which the extensive data available can be ordered and patterns, if any, discovered. Two bodies of theoretical work are useful here. On the international level, the concept of interdependence and the clash of low, or domestic policy with high, or foreign, policy very nicely encompasses the clashes going on within NATO today. In past years, the conflict between low and high politics, if it existed at all, was usually resolved in favor of high politics. With a changing international environment, explained in part by the concept of economic interdependence, low politics has mounted a challenge to the traditional predominance of high politics. Given this shift then, a closer look at low politics is called for. The body of theoretical work under the heading of interest group liberalism (of cozy little triangles, subgovernments, policy whirlpools, etc.) provides a sharper focus to analyze low politics. Together, these two bodies of theoretical literature provide a means of assessing the problems and prospects of varying levels of rationalization of defense efforts within NATO.

Interdependence

We are faced today with a situation in which the traditionally separate areas of low and high policy are, in a sense, merging. The distinction between high policy, traditionally concerned with the security and survival of the state, and low policy, concerned with domestic welfare and wealth (including foreign trade) is becoming increasingly irrelevant as domestic problems become an ever more important input and focus of foreign policy.¹ Recent work by Wolfram Hanrieder has noted also the decreasing utility of concepts such as the national interest as distributive (low) policy processes have begun to dominate the political process. National interest implies the dominance of non-distributive issues (such as security and survival) which have assumed decreased importance in recent years.² John Spanier, in a seminar at the Air Force Academy on August 24, 1978, noted the same development; that growth of low politics in foreign policy has destroyed the policy consensus which used to exist. Essentially, Spanier's point was the same as Hanrieder's; foreign policy is now a domestic issue. A clearer appreciation of why this is happening can be gained by separating, for purposes of analysis, the two policy areas. In doing so, it becomes clearer why growing economic interdependence in a changing international political/security environment has ultimately resulted in the politicization of the former (high politics) and the increased importance of domestic economic considerations (low politics) in international politics.

Economic interdependence can be said to have two elements. The first pertains to the relationship between a state's domestic policies and its foreign policies and the second to that state's economic relationships with other states. A high level of economic interdependence implies strong relationships over both elements, such that a state is highly involved or interdependent internationally and that this interdependence affects and is affected by its domestic policies. Richard Cooper makes note of this in defining interdependence as "the sensitivity of economic transactions between two or more nations to economic developments within those nations."³ Kenneth Waltz refers to it as the "cost" of the relationship.⁴ While economic interdependence is not new in the international system, the degree of interdependence has never been as high nor as pervasive as today.⁵ The reasons for this are two-fold. The first group falls under what might be termed autonomous developments. Edward Morse points to the effects of modernization on the external and internal elements of interdependence. Modernization has created the need for high levels of interdependence among developed national societies, for example in the areas of security, monetary and trade policy, leading to the development of institutions formalizing the interdependence. It has also transformed the internal structure of societies such that the state is no longer free to pursue international policies independent of domestic policies. The effect of modernization, then, has been to link a nation's domestic policies

to its foreign policy and, further, to link the foreign, and hence domestic policies of developed nations to each other.⁶

The growth in interdependence since World War II has been phenomenal, as modernization has advanced in varying degrees in most countries. The growth of international trade and travel, improvements in transportation and communication, the movement of labor, the growth of investment, both direct and financial, and shifting patterns of production and consumption are a few examples of the areas in which increasing interdependence is most noticeable.

In a second sense, interdependence has been pursued in a more deliberate and purposive fashion. In the post-World War II period, the United States deliberately pursued policies designed to increase interdependence for purposes of security. The Marshall Plan for Europe and policies pursued with respect to Japan are examples of security built on an economic framework which created (and reinforced existing) patterns of interdependence.⁷ The interaction of these two patterns of interdependence has resulted in an international system in which economic interdependence is high and continually growing, and in which, "as a result, . . . the external and internal consequences of domestic and foreign policy become more significant, and consequences that are not intended and that may or may not be recognized tend also to increase."⁸

In spite of the existence of an increasingly interdependent system, for many years the traditional two-track distinction between high and low politics was maintained; domestic economic policy being

subordinated to and separated from high politics.⁹ The factor which allowed this paradox to continue and which controlled the potential instability inherent in such a situation was the international political/security environment of the post-World War II period; in short, the Cold War.¹⁰

In the post-war period, the United States' leadership of the "Free World" bloc enabled it to pursue, under the cloak of security, a number of policies, internally and externally, which had important economic implications. The overvalued dollar and resulting United States deficits and their attendant costs for European nations (as well as their benefits) were accepted in "exchange" for United States security guarantees. The need to present a united bloc vis-a-vis the Soviet bloc overrode issues (largely domestic) that might otherwise have been divisive. Internally, the United States and other governments appealed to a sense of national security to ensure national sacrifice (subordination of low politics) to foreign policy interests (high politics). In general, economic considerations, trade in particular, were ignored at the high politics level.¹¹

However, important changes in the Cold War environment in the early 1960s heralded a changing international environment which was to have significant implications for the linkage problem noted above. As Bergsten, Keohane and Nye pointed out, the security factor in international relations includes three elements: The actual distribution of military power, changes in perceptions of the threat of military aggression, and changes in the relative economic strength

of countries within United States-led alliances.¹² Over the period, all three of these factors changed, two drastically, attacking the very assumptions upon which the post-war political and economic order had been built and signalling, by 1971, a new order.

The most significant change has occurred in the realm of threat perception. Detente and related decreases in threat perceptions have been the key centripetal forces acting on the Western Alliance system, increasing the sense of independence of all of the members. Hanrieder notes this in his article in pointing out that ". . . security issues have diminished in salience relative to economic issues . . . a noticeable shift of emphasis has taken place in world politics, away from the primacy of military-strategic elements of power toward the primacy of economic elements."¹³ He notes that, especially in Europe, little real fear of invasion exists; lacking that, there is less incentive to continue to subordinate domestic redistributive demands to the "national interest." John Spanier made the same point: interdependence and the lack of a cold war/polarizing-type issue has allowed high politics to be submerged by low. Only the development of a new "issue" is likely to reestablish the former foreign policy consensus.¹⁴ All of this encourages suspicions that standardization, while supported on the surface by arguments and evidence of an increasing military capability of the Warsaw Pact, is really (for Europeans especially) an economic issue. While it can be supported for military reasons, if this was the real rationale, it would be implemented differently; i.e., on straight

cost-effectiveness lines. The ongoing standardization debate shows that the issue is in reality a low or domestic political/economic one and hence makes clear that low, not high politics, is the issue: in sum, it is a straight distributive economic issue.

Of secondary importance in changing the environment has been the changing relative economic strength of the member countries. As Bergsten points out, awareness of their increasing economic capability and hence bargaining power vis-a-vis the United States has served also to increase their sense of independence.¹⁵ Thus, although the relative military power of the United States has decreased little, changing threat perceptions and relative economic capability have served to dramatically alter the international environment.¹⁶

As a result of these dramatic changes in the environment, the contemporary system of transnational relations has been severely challenged. Recognizing that national goals tend to conflict, but lacking the traditional unifying factor of security, and having failed to develop new structures within which interdependence could be controlled, new, largely national forces have threatened the patterns of international interdependence.

Edward Morse has characterized the present situation as one of crisis diplomacy, in which having failed to rectify the problems caused by years of sacrifice of low politics to considerations of security, we are now wallowing in a dilemma of our own creation.¹⁷ As considerations of security have decreased in primacy and nations have become more "independent" (at a time when their economies are

more interdependent) considerations of national wealth and welfare have received primary attention. In a period of economic interdependence, this has required recognition that questions of national welfare inherently involve questions of foreign policy (thereby decreasing national autonomy). A major dilemma therefore arises as states attempt to isolate themselves from the threats posed by economic interdependence to the successful achievement of their domestic policies (i.e., to seek autonomy or independence), yet simultaneously seek to take advantage of the often valuable benefits which interdependence makes available or possible.¹⁸

The dilemma becomes more pronounced, however, when changes in the environment force the contradiction harder; that is, perceptions of a growing Warsaw Pact threat which have, along with financial problems, increased the pressure to cooperate. The dilemma, of course, is that caused by the clash of high with low politics; while cooperation will increase military effectiveness at a cost savings, it may negatively affect important domestic concerns. Whereas during the 1950s and early 1960s the dilemma was muted by the fact that the contradiction never developed seriously in the United States (American domestic concerns, or low politics, were never challenged) and was not initially a major problem in Europe (due to a still weak industrial base; i.e., Europe was dependent on the United States, interdependence was still low and, hence, low politics were not able to challenge the high politics) the contradiction is much more serious now as European domestic interests are not about to allow

themselves to be subordinated to high political concerns without the United States' economy bearing at least some of the burden. Hence, while the contradiction was avoided in the United States in the 1950s and 1960s, the growth of interdependence along with a changing European dependence on the United States and a changing security environment have forced the contradiction in the United States as well as in Europe.

Given the continuing difficulty of resolving the dilemma through the development of structures capable of managing or controlling satisfactorily this interdependency, states are likely to pursue, as best they can, both domestic and international policies on an ad hoc basis. In summary, then, the problem is one of establishing some institutional means of resolving the tension between low and high politics which has relatively recently emerged in most of the NATO nations.

At this point, it will be useful to explore more thoroughly the nature of the dilemma; that is, what are low and high politics.

Low-High Politics and the Subgovernments

Low politics is virtually synonymous with what Theodore Lowi has described as "interest group liberalism."¹⁹ It manifests itself in the horizontal relationships between Congressional committees and subcommittees, congressmen themselves, administrative agencies and outside interest or clientele groups.²⁰ As Roger Davidson notes, the organizational nature of Congress allows and even encourages

the clustering of concerned groups and individuals attempting to influence, at the level where the working decisions are made, the implementation of those policies which directly affect them.²¹

While this conceptualization sheds light on what has been called "low politics," it does not address the relation to high politics. One of the more useful works dealing with this phenomenon is Randall Ripley and Grace Franklin's Congress, the Bureaucracy and Public Policy.²² In this work, they go beyond the Lowi categorization of domestic policy by applying a similar framework to foreign policy. In doing so, they have incorporated in their framework what we have called the areas of low and high politics, identified how they differ, and, by focusing on the varying roles played by Congress, interest groups and the administrative agencies and administration in formulating both types of policy, have provided the key which makes it easier to appreciate the problems standardization faces.

The foreign policy categories were originally identified by Samuel Huntington in The Common Defense.²³ Huntington identified two types of defense policy decisions. The first, structural decisions, ". . . are made in the currency of domestic policy. They deal with the procurement, allocation, and organization of the men, money, and material which go into the strategic units and uses of force."²⁴ The second type, strategic decisions, ". . . may be subdivided into two broad divisions: (1) program decisions concerning the strength of the military forces; and (2) use decisions concerning the deployment, commitment, and employment of military force . . ."²⁵ As Ripley and

Franklin note, "structural decisions are made primarily within the context of strategic decisions and are made to implement those decisions."²⁶

Ripley and Franklin then draw parallels between Huntington's categories and Lowi's distributive and regulatory arenas which clarify more precisely the nature of the decision processes for the two types of defense policy decisions:

In structural-distributive foreign and defense policy cases the analog to domestic distributive policy is very close. The process is characterized by the presence of subgovernments, by decentralized decision-making, by nonconflictual relationships among the actors, and by decisions that treat internal resources as unlimited and separable. Policy decisions emerge from the formal legislative process (bill introduction, committee hearing, passage by the House and Senate). Although Congress is generally responding to executive requests rather than initiating policy in this area, it nonetheless has final decision power.

In the strategic-regulatory foreign and defense policy area, policy planning and implementation are lodged within the executive branch, where a variety of agencies compete, bargain, and sometimes conflict in policy development. The decisions get made by these agencies, with the approval of the President. Public debate and congressional involvement may occur after the formal decisions are announced. Congress may get involved in several ways--committees or individuals may lobby executive agencies for particular decision outcomes, or Congress may respond to an executive request for legislation to implement a decision already made, or Congress may protest an action already completed. Congress does not plan and implement strategic-regulatory policy itself, however.²⁷

In a chapter on foreign and defense policy, Ripley and Franklin identify a number of areas which have traditionally fallen into the low politics arena of structural-distributive policy (e.g., procurement, research and development) and others which have traditionally been high politics or strategic-regulatory policy (e.g., foreign aid,

troop cuts, etc.).²⁸ They note that the lines between the arenas often blur on some issues, especially concerning Congressional involvement in strategic decisions (e.g., the Soviet trade issue and Mansfield's effort to remove troops from Europe). Here they have put their finger on the phenomenon identified above; that is, the merger of low with high politics. Both of these issues were ones which were traditionally located in one or the other arena, but now, as a result of growing interdependence and the changing international environment discussed above, are located firmly in both, causing increasing conflict and difficulty of resolution.

Looking at weapons standardization, we find another policy issue (that is, the awarding of procurement and research and development contracts) which has traditionally been located in one arena (the structural-distributive policy arena) but is now shared also with another (the strategic-regulatory). While conflict is not necessarily inherent in such a situation, given the nature of this particular issue, the likelihood of conflict is high. The problem is essentially the need to make sacrifices on one level or the other; either domestic welfare or national security. Unlike earlier eras, the two no longer are separable and, unlike the favorable position the United States was in during most of the Cold War, they are no longer identical. While decisions reached purely within the strategic-regulatory arena are likely to be more high politics oriented (more favorable to standardization), decisions reached purely in the structural-distributive arena (that is, in which the

subgovernments participate actively) are less likely to be sympathetic to purchases of military equipment outside the United States (due to costs to the United States' economy and because of the risks involved in relying on foreign sources for defense procurement). As Hanrieder has noted:

. . . power, security and defense commodities are indivisible, and hence less subject to the redistributive aspects of political processes, whereas welfare issues are divisible and at the very core of redistribution politics. Goals such as power and security are public goods and subject to the calculus of relative gain. Goals pertaining to welfare, economics and "profit" are private goods and can be assessed with respect to absolute gain.²⁹

As he notes, ". . . distributive processes have increased in frequency as well as in intensity--nationally as well as internationally and transnationally."³⁰ Further, ". . . the diminishing salience of security issues relative to economic issues narrows the area of 'high' nondistributive politics and enlarges the area of 'low' distributive politics."³¹ Hanrieder identifies weapon procurement/standardization issues as divisible issues which, although part of the security issue as a whole (indivisible) are themselves highly divisible; and notes that the distributive aspects of the standardization predominate over the security (non-distributive/indivisible) aspects of standardization.³²

The theoretical framework can now be carried one step further. An interesting development has been the split between the House and the Senate over standardization policy. The Senate has clearly been the leader, along with the administration, in pushing standardization. While some resistance has developed within the Senate to implementation (that is, authorization and appropriations for research and

procurement), it has been generally limited. The House, on the other hand, has fought both the policy language and implementation. Thus, the Senate can be perceived as more attuned to high politics and the House to low politics. This situation is, of course, not new; much work has been done on the differences between the two Houses.³³ Nevertheless, stark differences on the policy level and the lesser, but still obvious differences in sympathies on the implementation level, add another complication to the whole policy issue. The difficulty, of course, is in identifying and quantifying the sources of policy influence. The activities of the subgovernments are, by their nature, not easily observable.

Goals/Hypotheses

My goals in this dissertation are twofold. First, I intend to examine the concept of standardization itself, looking at what has been done over the last several years and then at what should be done in the future. Specifically, the question of how much standardization is necessary will be addressed. Recent literature has begun to challenge what has been accepted as gospel over the last several years.³⁴ A hard look needs to be taken at just how necessary standardization is and what level is ideal.

Second, having discussed whether standardization is as desirable as many assume today, and having reached some tentative conclusions on just how much is desirable, the question of feasibility will be addressed. For, even if we do decide standardization is essential to

NATO, if it is not feasible for technical or political reasons (or both) to implement it, we may find that the attempts to ensure implementation cause more damage than the failure to standardize causes in the first place.

The specific hypotheses to be addressed are:

1. That military effectiveness is not the key issue at stake in the debate over standardization. Rather, economics is the root issue and what is primarily a structural issue is being cast, for political purposes, as a strategic issue, a tactic which will be disastrous for standardization and the Alliance as a whole.

2. That the existence of subgovernments has and will continue to make standardization impossible in most areas without intense high-level active involvement in each policy decision and the implementation of those decisions, a situation which is unlikely to be sustained for any period of time.

3. Attempts to push standardization from the top (total system standardization) are likely to cause more damage to the Alliance through engendering domestic hostility and hence encouraging disintegration of Alliance ties/solidarity than they will gain in increased military effectiveness if, in fact, they do add anything to the military effectiveness of NATO at all.³⁵

4. To the extent that military effectiveness can be increased by standardization, we ought to go with interoperability of key components/logistics-resupply items; that is, those items for which resupply during actual war would be important.

Footnotes

¹Edward L. Morse, "The Transformation of Foreign Policies: Modernization, Interdependence, and Externalization," World Politics (April, 1970), pp. 371-372. See also C. Fred Bergsten, Robert O. Keohane and Joseph S. Nye, Jr., "International Economics and International Politics: A Framework for Analysis," in World Politics and International Economics, ed. C. Fred Bergsten and Lawrence B. Krause (Washington, D.C.: The Brookings Institution, 1975), pp. 4-5. Their distinction between process and structure is a somewhat different way of looking at the same problem.

²Wolfram F. Hanrieder, "Dissolving International Politics: Reflections on the Nation-State," American Political Science Review 72 (December, 1978):1276-1287.

³Richard N. Cooper, "Economic Interdependence and Foreign Policy in the Seventies," World Politics (January, 1972), p. 159.

⁴Kenneth Waltz, "The Myth of Interdependence," in The International Corporation, ed. Charles Kindleberger (Cambridge: The MIT Press, 1970).

⁵See Robert Gilpin, "The Politics of Transnational Economic Relations," International Organization (Summer, 1971), pp. 405-408.

⁶Morse, "The Transformation."

⁷Gilpin, "The Politics," pp. 408-413.

⁸Morse, "The Transformation," p. 377.

⁹Until at the least the mid-60s according to Richard N. Cooper, "Trade Policy is Foreign Policy," Foreign Policy, no. 9 (Winter, 1972-1973):21.

¹⁰Morse, "The Transformation," p. 381. See also Waltz, "The Myth"; both point out the potential inherent in such a situation for conflict if interdependence outgrows the ability of the system to regulate it.

¹¹Of course, the overall favorable United States trade balances during this period also relieved most of the pressure to make trade an element of high politics; all was well for the United States. For the European nations, however, more sacrifice was required in maintaining the subordination of low to high.

¹²Bergsten et al., "International Economics and International Politics," p. 13.

¹³Hanrieder, "Dissolving International Politics," p. 1280.

¹⁴John Spanier, seminar at the United States Air Force Academy, August 24, 1978.

¹⁵See also Robert Rhodes James, "Standardization and Common Production of Weapons in NATO," Number Three in the Series: Defense, Technology and the Western Alliance (London: The Institute for Strategic Studies, July, 1967), p. 3.

¹⁶While deterrent power has remained viable, offensive uses of power have decreased in utility; however, this situation holds equally for most developed powers. Bergsten et al., "International Economics," p. 8.

¹⁷Morse, "Crisis Diplomacy."

¹⁸Bergsten et al., "International Economics," p. 6.

¹⁹Theodore J. Lowi, The End of Liberalism: Ideology, Policy and the Crisis of Public Authority (New York: W. W. Norton and Co., 1969).

²⁰See Roger H. Davidson, "Breaking Up Those 'Cozy Triangles': An Impossible Dream," Unpublished article prepared for the Symposium on Legislative Reform and Public Policy, University of Nebraska, Lincoln, Nebraska, March 11-12, 1976, pp. 1-2.

²¹Ibid. It is important to note that the relationship is not a fixed one; the intimacy or cozyness of the relationship varies between the two Houses, across substantive areas, from committee to committee, with time and by individuals. More attention will be addressed to the factors affecting the particular relationship which may exist at any point later.

²²Randall B. Ripley and Grace A. Franklin, Congress, the Bureaucracy and Public Policy (Homewood, Illinois: The Dorsey Press, 1976).

²³Samual P. Huntington, The Common Defense (New York: Columbia University Press, 1961); see especially pp. 3-5.

²⁴Ibid., p. 4.

²⁵Ibid., p. 3.

²⁶Ripley and Franklin, Congress, the Bureaucracy and Public Policy, p. 19.

²⁷ Ibid., pp. 19-20.

²⁸ Ibid., pp. 143-164.

²⁹ Hanrieder, "Dissolving International Politics," p. 1280.

³⁰ Ibid., p. 1281.

³¹ Ibid.

³² Ibid., pp. 1284-1285.

³³ Among the factors often noted as affecting the perceptions and attitudes of Representatives versus Senators have been size of constituencies, local versus national roles of Representatives and Senators and individualism versus institutionalism in the Senate and the House. See the following for elaboration on these characteristics: Roger H. Davidson, The Role of the Congressman (New York: Western Publishing Co., 1969); Richard F. Fenno, Jr., Congressmen in Committees (Boston: Little, Brown and Co., 1973), especially pp. 139-191; Lewis A. Froman, Jr., Congressmen and Their Constituencies (Chicago: Rand McNally and Co., 1963), especially pp. 69-84; Lewis A. Froman, Jr., The Congressional Process: Strategies, Rules and Procedures (Boston: Little, Brown and Co., 1967), pp. 5-15; Jeffrey L. Pressman, House vs Senate: Conflict in the Appropriations Process (New Haven: Yale University Press, 1966); David R. Mayhew, Congress: The Electoral Connection (New Haven: Yale University Press, 1974); and Randall B. Ripley, Congress: Process and Policy, 2nd ed. (New York: W. W. Norton and Co., 1978).

³⁴ See, for example, Eliot Cohen, "NATO Standardization: The Perils of Common Sense," Foreign Policy, no. 31 (Summer, 1978):72-90.

³⁵ The tank standardization battle is an excellent illustration of this; little has been gained in military effectiveness--in fact, nothing at all has been gained yet--while the political expenses in the sense of hostility, distrust and antagonism between the United States and Germany have been enormous.

CHAPTER IV

POLICY--ORGANIZING TO STANDARDIZE

Pre-1970 NATO

The need to standardize within NATO received early recognition from members of the organization. In 1951, the Military Agency for Standardization (MAS) was created as the principal agency for standardization within NATO and was charged with formulation of standardization agreements (STANAGS) on procedural and material matters.¹ The MAS is primarily concerned with material acquisition (as opposed to developing and coordinating requirements) and is responsible to the Military Committee (thus is located on the military side of the NATO organization).² Although some 800 STANAGS have been promulgated and agreed to,³ many have never been fully implemented, and ". . . no major weapons system has ever been standardized on the basis of a STANAG."⁴ For the most part, STANAGS have focused on low-level interoperability type issues, such as specifications for explosives and ammunition, electronic components, etc. While these areas are by no means unimportant or insignificant, the broader objectives and hopes of the STANAG process have not been realized. What is most telling is the large number of STANAGS which, having been agreed to, have never been implemented. By 1967, of the 410 STANAGS then published, only some 220 had been implemented.⁵ Three working panels (Navy, Army and Air) under the MAS handle the majority of the MAS's work.⁶

In 1954, recognizing the need for earlier coordination of efforts and beginning to recognize that standardization was a political problem as well, a Defense Production Committee (DPC) was set up under the Defense Planning Committee (on the civilian side of the NATO organization) to supervise production programs.⁷ The DPC was intended to coordinate what were becoming increasingly ad hoc incohesive efforts.⁸

By 1958, however, it became obvious that even the dual military/civilian organization was unable to overcome the problems inherent in multinational coordination and that an expansion of the responsibilities of the standardization machinery was necessary. In April of that year, responding to requests from European members of NATO for a new structure, the Defense Production Committee was disbanded in favor of a new Armaments Committee. The Armaments Committee, still located on the civilian side of NATO under the Defense Planning Committee, had its authority broadened beyond that of the old DPC to permit it to deal with questions of applied research and development - this a recognition that cooperative efforts had to begin far in advance of the production stage.⁹

In addition, in 1959 a new system, the NATO Basic Military Requirement (NBMR), was implemented on the military side to formalize the requirements process. The assumption behind the new system was the belief that ". . . if the Allies were able to agree on a basic military requirement, that requirement would drive decisions about the weapons needed to meet the requirement."¹⁰ The responsibility for developing these NBMRs rested with the military authorities.

Like the STANAGS, however, the NEMR process largely failed. Of the some 50 NEMRs agreed to by NATO (all member nations had to ratify the proposed requirement before it became an NEMR), only seven were fully or partially met, and these were fulfilled from equipment already available from one or more NATO members.¹¹ Further, and more telling, ". . . no NEMR ever resulted in the Allies agreeing to cooperate to produce equipment to meet the requirement."¹²

The new system soon proved to be as unworkable as the previous approaches and the entire system (except for the MAS/STANAGs) was dropped in 1966. NATO Facts and Figures alluded to one of the major problems with the NEMR system:

The NATO military authorities . . . found themselves in a false position in that they were approving NATO Basic Military Requirements (NEMRs) without having responsibility for developing and producing the resulting equipment, and often without adequate scientific and technical advice.¹³

In short, the inflexible and mandatory nature of the system made it unworkable. To resolve this, a new organization and set of procedures was developed and implemented in 1966. The new procedures recognized the need to create a flexible structure within which each nation could operate freely:

The new procedures embody a change in philosophy based on recognition of the fact that countries cannot be compelled to co-operate nor to observe rigid procedural rules. What is needed is to make co-operation as easy and as advantageous as possible. The mandatory aspects of the earlier system were abandoned. The NEMRs were abolished, and it was agreed that co-operative action could start on the basis of proposals from any country or from the NATO military authorities. If at least two countries express interest in a proposal, a Group can be formed to discuss it. Gradually those NATO countries who have no intention of participating in the

project or making any commitments drop out. The remainder draw up characteristics and plan the development and production of the equipment, with timing and cost estimates. When they have completed a plan and are ready to make final commitments to proceed, they present a report asking for the project to be designated as a NATO project. From that point on, participating countries make their own arrangements, the only conditions being that they must make an annual report to NATO and that, if other countries wish to join at a later stage, they can do so on reasonably equitable conditions. The body managing the project is called a NATO Project Steering Committee and takes whatever form the participants wish. Projects can start at any point in the research, development and production process but for completely new items of equipment it is preferable to begin as early as possible in the research stage before countries have taken firm decisions on them.¹⁴

Recognizing that achieving cooperation in development and common selection and procurement was largely a political and economic problem rather than a military one, the overall responsibility for standardization was shifted to the civilian authorities and institutions within NATO.¹⁵ This framework also assured that France would be included in standardization considerations as they continued to participate with the civilian, but not the military, machinery of NATO.¹⁶

To oversee the new process, a new body called the Conference of National Armaments Directors (CNAD) was established. The CNAD consolidated and replaced the earlier Defense Production Committee and the Armaments Committee.¹⁷ Under the CNAD were four bodies primarily responsible for promoting cooperation: three Service Armaments Groups and a Defense Research Group along with some 140 subgroups and information exchange panels.¹⁸ The function of the new organization was to

. . . encourage and assist the countries to join together in equipment and research projects, but also to provide the means for exchanges of information on operational concepts, national equipment programmes and appropriate technical and logistic matters where cooperation can benefit NATO and the nations, even if no particular project as such is likely to materialize.¹⁹

Importantly, however, the CNAD was not designed to be, nor could it ever become (given the limited supranational authority of NATO) a procurement decision-making authority. It was designed to serve largely as an Alliance material acquisition information exchange body.²⁰

While creation of this new organization was in itself an admission of failure, NATO officials noted that,

. . . The fact that there no longer had to be NATO-wide agreement on requirements helped to encourage proposals as it was realized that if only two countries co-operated to produce a weapon for their forces, this was better than nothing in the hope that one day all countries would agree to develop and produce completely standard items of equipment.²¹

In fact, however, their hope has not been realized as the earlier description of the proliferation of weapons systems shows.

A final organizational innovation within NATO grew out of the recognition that industry was insufficiently incorporated into the requirements structure. To meet this need, the CNAD established in 1968 the NATO Industrial Advisory Group (NIAG)

. . . to provide a forum for free exchange of views on the various industrial aspects of NATO armaments questions, to foster a deeper feeling of international involvement in research, development and production, to seek closer co-operation amongst the industries of member countries, and to encourage the timely and efficient exchange of information between members governments and their defence industries.²²

NIAG members, themselves representatives or members of industrial firms, were to participate as representatives of their national industries rather than as members of a particular industry or as representatives of their governments.²³ Although the response of industrial representatives to NIAG has been favorable and highly laudatory,²⁴ it is unclear what the NIAG has contributed to the requirements process. If one is to view the overall results of the last 12 years of standardization progress under CNAD/NIAG, that answer must be little.

One critic of the current organization notes probably the major shortfall of CNAD is precisely that it forces problems which require

. . . cooperative decisions into national defense departments where inadequate staffing tends to diminish the impact of NATO staff initiatives. At best the system results in lengthy delays or independent negotiations between selected member governments; the formal NATO organization, which is likely to be bypassed in the process, is thereby rendered ineffective by the lack of centralized decision-making in the national defense organizations.²⁵

One attempt to resolve this problem was guidance from the military committee in 1970 requiring military authorities to provide the CNAD with their view of NATO military requirements, thus guaranteeing that the requirements which emerged would be ". . . recognized and mutually agreed upon requirements common to all NATO forces."²⁶ This guidance was to result (it was hoped) in closer cooperation between the CNAD working groups and the military authorities:

The linkage of the military requirements and operational concepts of the military commanders with the main groups of the CNAD provided the mechanism to anticipate future requirements. Starting equipment discussions before nations become committed to a specific course of action should provide a better basis upon which to reach agreement.²⁷

Even this refined structure, however, has largely failed to address the gap which exists between national and international requirements and procurement processes. General John Vogt, former Commander in Chief of United States Air Forces in Europe (USAFE) and NATO Commander of the 4th Tactical Air Forces in Europe (during the mid-1970s) noted this discrepancy. As his statement suggests, the procurement process proceeds independently of the development of requirements and further, the national and international procurement organizations continue to operate independently of each other:

Mr. Brooks. . . . In a recent report you prepared on the subject of improving NATO's force capabilities, you recommended that procedures be developed to allow the NATO Commanders to influence the selection of weapons and equipment used in their command. When you were the Air Force NATO Commander, did you have an input on the selection of weapons that were developed for your command, and if not, why?

General Vogt. Not in the NATO context, sir. There is no machinery in NATO today for NATO Headquarters or staffs to influence the development or selection of any weapons systems which ultimately will be supplied to them. As unbelievable as that may seem that is the truth.

Nobody ever came to me as a NATO Commander and said:

General Vogt, do you approve of this system or that system which we are buying within our respective governments, and which you will be using some day?

Nobody, including my own Government, ever did that.

In effect we were told what we would be supplied with and we were told we had to fight with what would be given us--whether or not we thought it was desirable or suitable for Allied Command, Europe.

I have recommended repeatedly that a procedure be established so that NATO commanders at all levels would be given a voice in the choice of weapons systems which would have to be used in their theater someday.²⁸

Along with the CNAD, two subforums of CNAD have developed with major policy roles: The Euronad, or group of European national armaments directors and the Four Power CNAD, or the national armaments directors of the United States, United Kingdom, the Federal Republic of Germany, and France.²⁹ The existence of this later group recognizes that these four nations together ". . . expend about 98% of the combined NATO defense research and development funds."³⁰

United States Moves to Rationalize NATO

Over 20 years of widespread organizational efforts to achieve some degree of standardization within NATO not only have largely failed, but have witnessed increasing destandardization within NATO.³¹ As a General Research Corporation study notes, formal agreements in the form of NBMRs and STANAGs have been a substitute for action as the NATO bodies, while having responsibility for achieving agreement on requirements and standards, did not have the function of specifying means to implement the agreements. That function was left to the national authorities.³²

Recognition of this failure in light of increasing concern in the early 1970s over what was perceived to be a growing Soviet/Warsaw Pact threat and in light of increasing budgetary pressures within most NATO governments to improve the effectiveness of defense budgets has led to a renewed effort to rationalize NATO. This new effort has received most of its impetus from within the United States government, although support for United States efforts from Europe (and

especially from European industrial concerns) has been strong. Nevertheless, the catalyst has been the United States, and most of the initiatives have come from and have been shaped by the United States government.

United States initiatives towards standardization have a long history. Unfortunately, but perhaps deservedly, however, most have been viewed as covers for United States pitches for Europe to buy a United States weapons system. The European approach to the latest initiatives reflects this experience and is clearly one of "wait and see."

A 1957 offer by President Eisenhower to provide United States "technical knowledge and experience in arms production to assist joint European weapons production" resulted in some cooperative projects as well as some organizational and policy changes within NATO.³³ However, this initiative was hardly sufficient to reverse the trend already well underway to greater destandardization.³⁴

The most current flurry of activity began roughly in 1974 with a call by the United States Secretary of Defense at the December 1974 NATO Ministerial Meeting for "more attention to NATO's rationalization efforts, emphasizing the benefits that could be derived from international cooperative programs."³⁵ Within the Department of Defense, both the Directorates for International Security Affairs (ISA) and Program Analysis and Evaluation (PA&E) began to gear up organizational structures to spotlight and to coordinate rationalization and standardization efforts.³⁶

The initiatives received their highest level focus at the NATO summit in mid-1975 when President Ford, in the "first top level Executive Branch policy statement on standardization and related issues in many years," called for increased emphasis on standardization of weapon systems:

A generation after its creation, the alliance wastes vast sums each year, sacrificing military effectiveness. We have simply not done enough to standardize our weapons. We must correct this. We must also agree among ourselves on a sensible division of weapons-development programs and production responsibilities. And we must do more to enhance our mutual capacity to support each other both in battle and logistically. The pressures on defense budgets throughout the alliance should by now have convinced each of us that we simply must rationalize our collective defense. We must make more effective use of our defense resources. We need to achieve our longstanding goals of common procedures and equipment. Our research and development efforts must be more than the sum of individual parts. Let us become one in our allocation of defense tasks, support and production [underlining added].³⁷

President Carter took up the theme during his campaign and after his election.³⁸ At the NATO Summit in May of 1977, he stated, "together, we should look for ways to standardize our equipment and make sure it can be used by all allied forces."³⁹ Furthermore, he added,

My administration's decisions about the development, production and procurement of defense equipment will be taken with careful attention to the interests of all members of the Alliance. I have instructed the Secretary of Defense to seek increased opportunities to buy European defense equipment where this would mean more efficient use of allied resources. I will work with the Congress of the United States to this end.⁴⁰

The driving force behind the United States initiatives has not been the Executive Branch. Congress has, in this particular case,

been the agency responsible for bringing the issue to the national agenda. Although the Department of Defense, at high levels, has been supportive of this effort, it has been Congress (and especially the Senate) which has focused attention on and provided a forum for those within and outside government who have seen a need for greater rationalization of the NATO defense effort.

The Senate Armed Services Committee, behind the efforts of Senators McIntyre (D-NH), Nunn (D-GA) and Culver (D-IA), fought a three-year battle to include strong language in support of standardization in the Defense Authorization Acts. Their first effort, in 1974, resulted in a relatively weak call for assessment of the effects of failing to standardize and directed the Department of Defense to report to Congress semi-annually on standardization progress.⁴¹

In 1975, strong policy language calling for standardization (the Culver-Nunn amendment) and waiving provisions of the Buy American Act was weakened by the House resulting in a "sense of Congress" declaration in the FY 1976 Authorization Bill.⁴² Finally, in 1976, the Senate Armed Services Committee was able to push through a strong policy statement committing the United States to support standardization and rationalization within NATO. The language also strengthened the ability of the Secretary of Defense to waive the Buy American Act if necessary to support standardization and finally encouraged European governments to develop cooperative armament production efforts as a means of successfully competing on the "two-way street."⁴³ The controversy surrounding passage of these three bills is traced

at the end of this chapter. What is important here is to note the strong endorsement which ultimately emerged from Congress (1976) after a three-year effort (beginning in 1974).

A driving force behind Congressional (Senate) interest was the work of Thomas Callaghan. Mr. Callaghan, a consultant for government and industry on international trade, technology and marketing, produced a study under contract to the State Department in early 1974 which argued that more than \$10 billion per year was being wasted in NATO and argued that NATO's "conventional weapons development and procurement expenditures . . ." could be increased by 40% without raising present budgets.⁴⁴ Mr. Callaghan was able to promulgate his views through government contacts within both the Executive and Legislative Branches through his position at the Center for Strategic and International Studies at Georgetown University. Although most current proponents of standardization do not support Mr. Callaghan's call for a North Atlantic Common Defense Market, his work and his brilliant salesmanship of it have earned him a position as god-father to the most current in a long series of NATO initiatives. His work has been the catalyst which directed attention to the problem.

Congressional interest in standardization coalesced around a series of trips to Europe by Mr. Hyman Fine, a staff member of the Senate Armed Services Research and Development Subcommittee. Mr. Fine, at the direction of the Chairman of the Research and Development Subcommittee (Senator McIntyre of New Hampshire), visited NATO Europe

in 1973, 1974 and 1975 for the "purpose of exploring the possibility of increased cooperation between the United States and our NATO allies in military research and development."⁴⁵ Mr. Fine's reports were a driving force behind the efforts begun in 1974 in the Senate Armed Services Committee (and especially in the Research and Development Subcommittee) which culminated in the three standardization amendments to the Fiscal Year 1975, 1976 and finally the 1977 Authorization Bills (noted above). Mr. Fine's reports were highly supportive of increased standardization and especially of the need for the United States to show good faith by procuring systems from the Europeans.⁴⁶

A major hearing before two subcommittees of the Senate Armed Services Committee in March of 1976 further strengthened the resolve of that Committee to push for stronger standardization legislation. Testifying before the subcommittees were six parliamentarians from the subcommittee on European Defense Cooperation of the North Atlantic Assembly in addition to representatives of the Department of Defense (the Directorates for Defense Research and Engineering and for International Security Affairs) and from the State Department.⁴⁷

Within the Executive Branch, both the State Department and the Department of Defense continued to reflect the increased concern with standardization policy. A joint State/Defense Colloquium in May of 1975 provided another forum which strongly endorsed "standardization as a means of reducing the unit cost of weapons, increasing Alliance military effectiveness, and improving cost effectiveness through structured competition rather than by dividing up the market."⁴⁸

The Department of Defense issued a series of policy directives as it began to reflect the increased concern for standardization and as it tried to create an organizational structure within which standardization would receive more than mere lip service.⁴⁹ Three of the more significant directives are DOD Directive 5000.1, Major System Acquisitions, issued on January 18, 1977; DOD Directive 5000.2, Major System Acquisition Process, issued also on January 18, 1977; and DOD Directive 2010.6, Standardization and Interoperability of Weapon Systems and Equipment Within the North Atlantic Treaty Organization (NATO), issued on March 11, 1977. The first two outline DOD acquisition processes in detail, note the responsibilities of the Director, Defense Research and Engineering for source selection, and require that the Mission Element Need Statement (MENS) used to justify the initiative of a new major system acquisition

. . . state the known constraints to apply to any acceptable solution including operation and logistics considerations, requirements for NATO standardization or interoperability, limits on the resource investment to be made, timing, etc. These constraints will constitute boundry [sic] conditions for the exploration of alternative solutions.⁵⁰

The third directive (2010.6)

. . . establishes DOD policy and assigns DOD responsibilities for achieving standardization and interoperability of weapon systems and other equipment within NATO.⁵¹

This directive focuses on the political and economic aspects of the problem and assigns Rationalization, Standardization and Interoperability (RSI) responsibility to each DOD component.

To aid in implementation of the RSI directive, both the Assistant Secretary of Defense for International Security Affairs (ISA) and the Advisor to the Secretary of Defense on NATO Affairs (originally Robert Komer, currently vacant) serve as members of the Defense Systems Acquisition Review Council (DSARC) - the decision making body created to monitor and review the weapons acquisition process, making decisions at several critical points whether to continue or terminate weapons programs - for those programs having RSI implications. They also review related Decision Coordinating Papers (DCPs) - the summary documents supporting each step/milestone of the DSARC process - for standardization-related programs. Inclusion of these individuals opens the system acquisition process to standardization considerations from the political organizations within the DOD.⁵²

Finally, as Dr. Perry notes, "Basic DOD policy is to actively seek standardization and interoperability of weapons systems and equipment within NATO on a priority basis in order to conserve resources and increase the combined combat capability of United States and NATO forces."⁵³

In spite of the flurry of activity outlined here, it is useful to look beneath the surface for two reasons. First, only a limited number of individuals, albeit in key positions, have been involved. The vast literature over the past five years and the volume of activity overstate the actual number of individuals involved. Mr. Callaghan, for example, has published numerous

articles in a wide diversity of publications creating a broader image of concern than is perhaps valid. In the Congress, a handful of Congressmen, primarily Senators, have been the driving force (Nunn, Culver, McIntyre and also Representative Jack Brooks, D-TX, on the House Committee on Government Operations' Subcommittee on Legislation and National Security). Second, within the bureaucracy, the activity has focused at the top policy levels with limited and isolated involvement from the lower levels of the bureaucracy. While DOD elements have gone through the motions, they have been largely that. For one example, while defending the support of the Army for DOD efforts, neither Dr. Walter B. Laberge, Under Secretary of the Army, nor Dr. Percy Pierre, Assistant Secretary of the Army for Research, Development and Acquisition knew who the Army's representative to the DOD Steering Group on NATO Rationalization and Standardization, the primary organization within DOD for overseeing of RSI efforts, was.⁵⁴ Likewise, within Congress, only the Senate Armed Services Committee and the House Government Operations Committee have supported standardization. The House Armed Services Committee, as will be illustrated in the following case studies, has actively opposed all standardization policy language and projects. The Senate Foreign Relations Committee, a committee that ought to be concerned and involved, has ignored the issue.⁵⁵

Nevertheless, DOD, with Congressional urging, has overcome one of the major hurdles to standardization: the previous lack of an institutional framework and constituency, internal to DOD and

committed to standardization. While the institutional structure will not guarantee progress towards rationalization, standardization, and interoperability, without it such progress would be impossible.⁵⁶

In spite of the lethargy and opposition within many elements of the government towards standardization, a clear United States policy position has emerged. Of the various approaches available, DOD favors (and Congress has endorsed) licensed production and co-production as the methods they believe will minimize the economic hardships related to standardization and will insure the survivability of NATO's production base in time of war (by providing multiple production sources) while advancing standardization.⁵⁷ As noted in Chapter II, while this approach achieves most of the military benefits of commonality, it does not provide the macro-economic benefits of total rationalization of logistics.⁵⁸ Nevertheless, it provides a potential way through the political thicket surrounding off-shore procurements.

Further, DOD has consistently emphasized interoperability over standardization as it proceeds to implement Congressional policy. While paying lip service to standardization, it is clear that (for DOD at least) standardization is seen as distinct from interoperability and as a long-term effort and a distant objective at best.⁵⁹

NATO Response to United States Initiatives

By the mid-1970s, the United States' initiatives had created an atmosphere of excitement; the European NATO members were interested

and expectant, but they were also somewhat cynical based on previous experience. They were looking for positive action by the United States to back up the relatively easy-to-make policy statements. The United States attempted to provide these on two levels. On one level, the United States sought concrete examples to demonstrate its resolve; among these were the tank procurement which came to involve the German Leopard-II tank, the purchase of the Roland missile system for licensed production in the United States and the direct purchase of a Belgian machine gun, the MAG-58. The domestic political battles within the United States which came to surround these procurements are detailed in the case studies to follow.

On a second level, the United States perceived it necessary to support the creation within NATO of an organizational structure to keep alive the momentum which had developed on both sides of the Atlantic. To serve this purpose, the NATO Long-Term Defense Program (LTDP) was conceived. In addition, several Short-Term Defense measures were identified as important and incorporated into a programmatic structure.

What was to become the LTDP was first proposed by President Carter at the May 1977 North Atlantic Council Meeting:

There have been real increases in allied defense spending. But difficult economic conditions set practical limits. We need to use limited resources wisely, particularly in strengthening conventional forces. To this end:

- We must combine, coordinate, and concert our national programs more effectively.
- We must find better ways to bring new technology into our armed forces.
- We must give higher priority to increasing the readiness of these forces.

To fulfill these goals, I hope our defense ministers, when they meet next week, will begin developing a long-term defense program to strengthen the alliance's deterrence and defense in the 1980s. That program should help us make choices and set priorities. It should emphasize greater alliance cooperation to insure that our combined resources are used most effectively.⁶⁰

The program was adopted by NATO the following year in Washington (May 1978).⁶¹ Over the intervening year, NATO established task forces to study and develop long-term defense efforts in ten priority areas. As pointed out by the GAO, the task forces:

- focused on a limited number of high-priority measures;
- identified the contributions required, either nationally or multinationally, to counter the deficiencies;
- established timing for the critical phases and completion;
- explored all opportunities for greater alliance cooperation in various fields, notably standardization, interoperability, and logistics;
- framed their proposals with an eye to feasibility and affordability; and
- made proposals on the programming and implementing machinery which might be necessary to meet program goals.⁶²

The reports of the ten task forces (readiness; reinforcement; reserve mobilization; maritime posture; air defense; communications, command and control; electronic warfare; rationalization (standardization/interoperability); logistics; and theater nuclear modernization) were reviewed by the Defense Ministers and Heads of State in May of 1978. While the Ministers and Heads of State did not approve all of the task force recommendations, a basic program recommending actions to improve NATO defense capabilities between 1979 and 1984 and over the long-term period of 1985 to 1990 was approved.⁶³ Altogether, some 120 high priority measures were identified.⁶⁴

Simultaneously, several short-term measures were identified as requiring immediate attention. In July of 1977, the NATO military committee recommended a series of measures of an urgent nature. In February of 1978, a short-term plan, approving emphasis of three short-term measures (a significant reduction in scope from the series of measures originally proposed)⁶⁵ was approved by the NATO Defense Ministers. The three measures were Antitank Weapons, War Reserve Munitions, and Readiness and Reinforcement.

In review, the entire NATO program, including the ten long-term and the three short-term measures, was basically conceived, devised and provided to NATO by the United States. Although NATO input was sought during the study phase, for the most part the terms of reference and goals of each task force were provided by parallel task forces organized within the United States government. This was especially true of the rationalization task force but true also to lesser degrees for other of the programs.⁶⁶ The overall framework for the LTDP was first floated in early 1977 (several months prior to President Carter's presentation of it to NATO) in an article by Robert W. Komer who would become Secretary Brown's Advisor to NATO Affairs in September of 1977 and who was at the time of the article already serving as a full-time informal advisor to the Department of Defense. Mr. Komer's article, "10 Suggestions for Rationalizing NATO," published in the March/April 1977 issue of Survival, called for a broad rationalization of the NATO defense effort. Specifically, Komer identified several areas as needing

attention. These included communications, command and control; readiness; reserve; air defense; naval posture; logistics rationalization; standardization and interoperability; theater nuclear posture; and reinforcement. Interestingly, these nine areas all were to become major foci for the LTDP.⁶⁷

United States Initiatives to Implement the LTDP

The previous attempts to standardize within NATO, stretching back now some 30 years, made it obvious that while broad programs such as the long-term and short-term defense programs were necessary stimuli to maintain goals and objectives, by themselves they would not overcome the domestic barriers to improved cooperation. As DOD recognized, there were two principal barriers:

- The European NATO countries have built up their defense industries this past decade and some are fearful that cooperation with the US may threaten these industries.
- Legislation in the US, designed to protect US industry from foreign competition, inhibits the formulation of cooperative programs.⁶⁸

To attack these barriers, DOD proposed a new "framework" for cooperation in development and procurement. As William Perry, Under Secretary of Defense for Research and Engineering describes it, the new framework consists of

. . . a triad of cooperative actions along with a supporting management structure. The triad includes: General Memorandum of Understanding (MOUs) in reciprocal purchasing; Dual Production in NATO countries; and the Family of Weapons.⁶⁹

The General MOUs, bilateral agreements between the United States and individual European members of NATO, are designed to

" . . . waive various 'Buy National' restrictions on a reciprocal basis."⁷⁰ Thus, artificial barriers to cooperation in arms procurement would be lowered. As of January of 1981, MOUs have been negotiated by the United States with 11 NATO countries: The United Kingdom, Canada, Germany, Norway, the Netherlands, Italy, Belgium, Denmark, France, Portugal and Turkey. Negotiations with one other country (West Germany) were underway.⁷¹

Dual Production, the second leg of the cooperative triad, is designed to reduce unnecessary duplication in Research and Development by encouraging NATO members to make their systems available for production by other NATO members or groups of members.⁷² Dual production would facilitate standardization by eliminating domestic opposition because of job losses. Identical or nearly identical systems would be produced and used by several NATO members--standardization would therefore be advanced without challenging domestic employment.

The final leg of the cooperative triad is a concept called the Family of Weapons (FOW). As explained by Under Secretary Perry:

Our approach is to examine the weapons which member nations plan to develop in the next few years and aggregate these weapons by mission area. When we find two or three that perform similar missions, we will agree to divide the responsibility. For example, one party would develop a long-range air-to-air missile and the other a short-range version. We would anticipate such divisions to be made among the US and Canada on the one hand and European consortia on the other. Each nation would fund the program for which it is responsible.

As a result of discussions with our Allies and an industrial dialogue initiated in the recent Defense Science Board Summer Study, we have modified this Family of Weapons proposal somewhat. When the US has the lead, we will designate a portion of the development to be available to European industry. The

European consortium, in turn, will designate a corresponding portion of their development to US industry. The purpose of this modification is to encourage trans-Atlantic industrial teaming, to provide the best available technology and to facilitate the information exchange that will be needed for the dual production that will follow. On all programs for which we are responsible for development and production, we will select the US prime contractors, subcontractors, and European subcontractors on a competitive basis to insure the best technology and lowest cost in the resulting system.

When the development is completed, the developing nation would make available to the other participants a data package for production. Exchange of production data packages would be on a reciprocal basis to include all programs in the family. Present planning envisions one production line for the long-range air-to-air missile in the United States as well as one in Europe to encourage procurement of a large NATO inventory of this advanced weapon. Also, we would plan to produce, in the United States, our inventory requirements for the European-developed short-range missile.⁷³

Currently under consideration as families are the following:

anti-tank guided missiles, air-to-surface weapons, ship-to-ship missiles and air-to-air missiles.⁷⁴ Although the FOW concept is not a new one (it was proposed over ten years ago by Robert R. James in a monograph for the Institute for Strategic Studies entitled "Standardization and Common Production of Weapons in NATO")⁷⁵ it had not matured until DOD reintroduced it as part of the cooperative triad of proposals.⁷⁶

To accompany the triad, a NATO management structure has been proposed by the United States. Within the NATO CNAD would be located a Periodic Armaments Planning System (PAPS) composed of two elements. The first would be a procedure for identifying military requirements prior to establishing national programs (similar to the United States' Mission Element Need Statement or MENS process). The

second element is a feedback loop designed to indicate how well the requirements process is doing.⁷⁷ This system, the NATO Armaments Planning Review (NAPR) would identify and publicize national defense equipment replacement plans, highlighting areas where opportunities for cooperation exist as well as areas where divergences in national programs were developing.⁷⁸

The PAPS (MENS) process would "pave the way for cooperative development and [would be linked to] standardization agreements (STANAGS) governing equipment designs to insure needed interoperability."⁷⁹ What, however, is not clear in the new organization is the linkage between the Long-Term and Short-Term Defense Program task forces and the organizational machinery designed to implement standardization; that is, how the requirements developed by the task forces and approved by the Heads of State are to be integrated into the armaments requirements process and how the goals of the LTDP are to be operationalized and monitored. An attempt is made to spell out the linkage in the FY 1980 DOD Annual Report, although it is less than clear.⁸⁰ DOD officials admit as much in the Sixth DOD Report to Congress on Rationalization/Standardization within NATO:

. . . The ad hoc group for Improvement of NATO Standardization Agreements and the Role of the Military Agency for Standardization is determining if new management procedures, demarcation of areas of responsibility, interrelationships between these organizations, and possibly a new overall NATO standardization policy and management office in NATO are needed. The US and other NATO nations believe that some sort of overall NATO management office to provide oversight and coordination of the entire process may be needed.⁸¹

Additional NATO Responses to United States Initiatives

In response to the flurry of United States initiatives in 1974-1975, the North Atlantic Council formed, in December of 1975, an Ad Hoc Committee on Equipment Interoperability.⁸² Interestingly, however, the terms of reference of the committee explicitly rejected standardization as a goal "pending further development of intra-European and United States interests and trends."⁸³ The United States had recommended in mid-1975 the creation of a NATO Steering Committee on Standardization, but the North Atlantic Council preferred the creation of a committee focusing instead on interoperability. The French, as will be seen in the next chapter, were an important force in focusing attention on interoperability rather than standardization. Standardization apparently involved too large of a commitment for France and also offered too much opportunity for United States imposition. The price of French cooperation, hence, was a substitute of interoperability for standardization as the focus of the group. Agreement by France to this committee was in large part possible only because of increased pressure within Europe for cooperation and because of the recognition by France that without cooperation at some level, France was likely to be left out.⁸⁴ This tendency to pay lip service to standardization and to focus on interoperability is not unique throughout the various organizations traditionally existing nor in new organizations created in the 70s. It is an implicit recognition of the political, economic, and

military impediments to standardization, an issue to be examined in detail in the next chapter.

The ad hoc committee focused attention on interoperability in five critical areas: communications, aircraft rearming, tank gun ammunition, fuels, and standardization agreements (STANAGS).⁸⁵ As the United States' Representative to the NATO Military Committee has pointed out, the committee has accomplished some useful work in each area (especially in cross-servicing of aircraft and in standardization of fuels), but it provides even a more useful objective - that of providing a forum within the political arena for interoperability questions/problems:

Those persons who are interested in the technical side of interoperability have long been concerned with gaining a hearing at the political level. In some cases, although the technical questions have been resolved, decisions have been made on equipment programs seemingly with little attention to the technical elements.

As your committee [House Government Operations Committee, Subcommittee on Legislation and National Security] and as you have just mentioned, many of these decisions become largely political or economic in nature. The ad hoc committee has surfaced some of the problems and although the progress has not been spectacular, it has been significant . . .⁸⁶

General Knowlton went on to identify two areas (communication's specifications and standardization agreements) where political/economic problems of interoperability had been addressed by the committee and where progress was being made.⁸⁷

A second ad hoc group, the ad hoc working group on Improvement of NATO Standardization Agreements and the Role of the Military Agency for Standardization (MAS) was recently organized within NATO.

The work of this group, although related in part to that of the Ad Hoc Committee on Interoperability (implementation of standardization agreements) goes beyond the ad hoc committee as DOD points out:

. . . This ad hoc group is looking for ways to improve the NATO standardization process through an examination of present NATO policy and machinery for STANAG development. This examination includes the MAS as well as the CNAD, its armaments groups and its group concerned with standardization of assemblies, components, spare parts and materials. The ad hoc group is determining if new management procedures, demarcation of areas of responsibility, interrelationships between these organizations, and possibly a new overall NATO standardization policy and management office in NATO are needed. The US and other NATO nations believe that some sort of overall NATO management office to provide oversight and coordination of the entire process may be needed.⁸⁸

As noted earlier, and as is clear in the above review of the multiplicity of task forces, working groups, committees and conferences focusing on standardization, a review of the overall NATO management of standardization is needed. In part, this working group is addressing this problem.

Intra-European Responses

A final area to be addressed is that of how Europe itself is responding to the standardization issue. As has been alluded to, the growth and increased competitiveness of European industry gave birth, in large part, to the need to address this problem. The availability of European equipment, as good as or better than United States equipment, in some areas, as well as domestic employment pressures and even pressure of national European pride have all created a situation in which the United States . . . and not . . .

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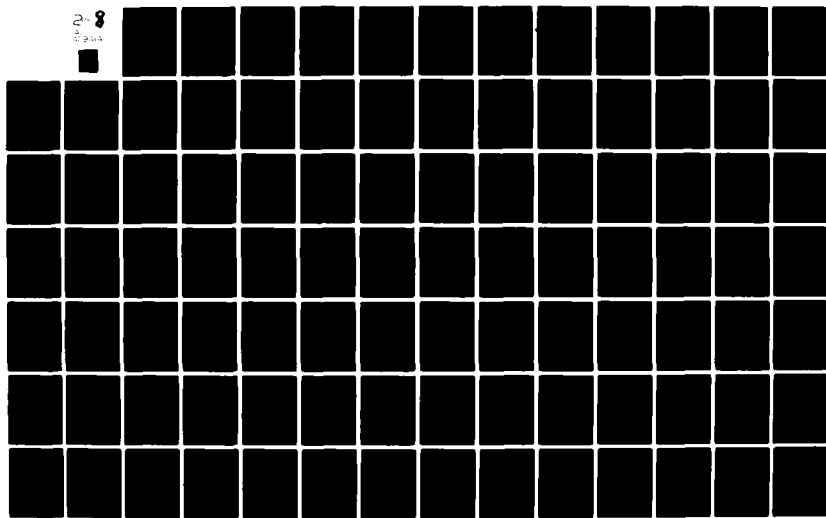
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to be the major provider of NATO arms. Further, as the General Accounting Office has pointed out, the Europeans see standardization

. . . as providing an opportunity to raise the level of their industrial technology in areas where they now trail the United States. They would accomplish this by increasing the development of future NATO weapon systems in Europe, gaining broader acceptance for these systems (including American acceptance), and sharing in the production of systems developed in the United States. The overall economic health of the European members of the Alliance would benefit as well. This goal has strong support in U.S. Government circles, since a strong industrial Europe is seen as resounding to the benefit of the Alliance as a whole.⁸⁹

As the policy arena developed, it naturally took on the dimension of the United States versus Europe. The United States further encouraged this approach when, in 1976, Congress passed and the President signed the FY 1977 Defense Authorization Act which encouraged the Europeans to cooperate and compete, as a group, with the United States:

. . . (c) It is the sense of the Congress that standardization of weapons and equipment within the North Atlantic Alliance on the basis of a "two-way street" concept of cooperation in defense procurement between Europe and North America could only work in a realistic sense if the European nations operated on a united and collective basis. Accordingly, the Congress encourages the governments of Europe to accelerate their present efforts to achieve European armaments collaboration among all European members of the Alliance.⁹⁰

The European response has been focused on three institutions: the Eurogroup, the Western European Union (to a very limited extent), and the new Independent European Program Group.

Eurogroup

Eurogroup, an organization of European members of NATO (excluding France, Portugal, and Iceland) formed in 1968 was the

first (and most logical) intra-European body to address the standardization issue. The Eurogroup had previous experience with standardization efforts, having been formed in large part for that purpose. As identified by the Germans, the purposes of the Eurogroup were:

- to achieve, by collaboration, a more effective use of their financial resources and thus greater efficiency in their national defense efforts;
- to facilitate, by multilateral improvement programs, the US force presence in Europe politically, psychologically, and materially; and
- to consult with each other on matters relating to security and defence, and above all, develop common equipment, training, and logistic concepts.⁹¹

The first major effort of the Eurogroup was the European Defense Improvement Program introduced in 1970:

The European Defence Improvement Programme (EDIP) was a programme valued at about \$1 billion (1970 prices) over a 5-year period, in addition to substantial capital and running costs thereafter for certain of the items in it. The programme was made up of three elements:

- a. a special five-year Eurogroup contribution to NATO infrastructure funds of \$420 million. This contribution, additional to member countries' normal contributions, provided for more shelters on the ground for NATO aircraft of all countries and helped the introduction of the NATO Integrated Communications System (NICS) to improve political and military command and control in time of emergency;
- b. special national force improvements, not previously planned, by a number of Eurogroup countries;
- c. the provision by Germany to Turkey of a force of Transall aircraft for tactical transport.⁹²

Euronad, a subgroup of Eurogroup (made of the National Armament Directors of the Eurogroup members) provides the forum for equipment collaboration within the Eurogroup. Formed in 1971, Euronad's first task was to draw up a set of principles "governing equipment."

collaboration and aimed at reducing wasteful duplication and enhancing standardization and interoperability." ⁹³

. . . To further the objective systematically, guiding principles are needed in the following respects:

- a. The exchange of basic information.
- b. The review of possibilities.
- c. Maximum co-operation in procurement.
- d. Maximum standardization.
- e. Maximum co-operation in logistic support.
- f. Management and cost control considerations. ⁹⁴

Having agreed on the principles in 1972, Eurogroup has, over the last eight years, attempted to give practical expression to these principles through identification of projects offering good prospects for collaboration. One project, the replacement of the F-104 aircraft by several NATO nations, resulted in Belgium, Norway, Denmark, and the Netherlands joining in the F-16 project with the United States. ⁹⁵ However, as the General Research Corporation report notes, most of the projects have been bi- or tri-lateral. ⁹⁶ An additional and important part of Eurogroup's work has been the "preparation of a full range, for all member countries, of equipment replacement schedules." ⁹⁷ These schedules will probably form the foundation for the NATO Armaments Planning Review element of the new PAPS. As one analyst has noted, the efforts of the Eurogroup have "demonstrated that the Europeans have the will to identify and to develop areas of cooperation and are in fact capable of doing many things for European defense on a totally European basis." ⁹⁸

Eurogroup's response to the United States' initiatives in 1974 was to turn to standardization with even greater effort. As

one DOD study notes,

Eurogroup took up the theme with greater earnest as a trans-Atlantic issue as well as an intro-European issue. By no means abandoning the efforts to improve European governmental cooperation and associated programs of multinational teaming in weapons development and production, the Eurogroup became increasingly, in late 1974 and early 1975, a voice of Europe in NATO standardization.⁹⁹

United States encouragement of this effort began in December of 1974 at a NATO Defense Planning Committee meeting where Secretary Schlesinger agreed with other NATO members that "progress on standardization of equipment must involve genuine two-way traffic between the European allies and the United States."¹⁰⁰ One analyst argues that the Eurogroup saw this policy statement as an "American acknowledgment of the importance of maintaining a strong European defence industrial base."¹⁰¹ The British Defense Secretary and Eurogroup Chairman designate for 1975, Mr. Roy Mason, saw it as "a breakthrough that the United States Defense Secretary should at least acknowledge that [two-way street] principle."¹⁰²

This United States policy statement, along with the Callaghan report discussed earlier, which Heyhoe sees as "a catalyst which not only reflected avowed Congressional concerns at the waste of Alliance resources through lack of standardization, but also held obvious appeal for the European allies with its proposals for increased American purchases of European equipment,"¹⁰³ were perceived by the Eurogroup countries as an invitation to proceed.

The European response came in the communique of the May 7, 1975, Eurogroup meeting and invited a dialogue between the United

States and Europe. The United States' response at the Defense Planning Committee meeting two weeks later was positive; the Ministers agreed "to pursue within the appropriate machinery the establishment of a two-way street between Europe and North America, in order to provide a more cost-effective use of resources and increase standardization of weapon systems."¹⁰⁴ This effort was followed shortly by President Ford's address to the NATO summit, remarked on earlier and confirming and reinforcing the United States' commitment to greater and more equal cooperation.¹⁰⁵

In late 1975, following President Ford's address to the NATO summit (May, 1975) and "circulation within NATO of a draft United States policy statement on standardization guidelines and on the creation of a NATO Steering Committee on Standardization" (which was later adapted, but as the Ad Hoc Committee on Equipment Interoperability as discussed above), the Eurogroup effort moved into full gear:

At the Eurogroup Ministers meeting of 5 November 1975, provisional plans were laid for the creation of a staff or secretariat that could begin to collect and collate information on European R&D and procurement programs with a view to facilitating further European rationalization as the US policy initiative had urged. Following this meeting, a select group of senior staff personnel from the ministries of several Eurogroup countries travelled to the US to meet with interested representatives of US industries, government, and research institutions. The two-way street was the principal message. Eurogroup also sent an unprecedented delegation of European parliamentarians to testify before the US Senate in hearings held on NATO standardization on 31 March 1976. Again, the message was the two-way street.¹⁰⁶

Eurogroup efforts thus largely dominated European considerations in the mid-1970s with two overriding themes driving European efforts:

1. The need for closer coordination (or even integration) within Europe; and
2. The need for a more balanced "two-way street" between a stronger Europe and North America.¹⁰⁷

A key buzzword growing out of Eurogroup/European cooperative efforts was the term "two-way street." To the Europeans, this meant a greater traffic in arms purchases from Europe to the United States to match the opposite flow:

Many hopes (or illusions) were fostered that NATO was about to enter a new era in which European NATO would be increasingly integrated in defense and the US would drop its "Buy American" restrictions and begin to buy as much of its defense material in Europe as Europe bought in the US.¹⁰⁸

The United States, as noted above, had endorsed this concept on several occasions, notably in December of 1974 with Secretary of Defense Schlesinger's endorsement at the Defense Planning Committee and again in May of 1975 with commitments from Secretary of Defense Schlesinger and President Ford. The United States Congress endorsed the concept in the FY 1977 Department of Defense Appropriation Authorization Act.¹⁰⁹ As attempts to implement the "two-way street" have progressed, however, disagreements over exactly what it means or ought to mean have emerged. Some have argued that it means only a slightly increased amount of traffic

from Europe to the United States while others argue that it means an exactly equal flow. Agreement is lacking on what ought to be "counted" on the two-way street--that is, only major weapon system procurements, all defense-related procurements, or trade of all goods (military and civilian) between the continents. As might be expected, resolution of this issue has not been forthcoming nor is it likely to be easily or permanently resolved.

Western European Union (WEU)

The major drawback to Eurogroup efforts was its truncated nature due to the absence of France. While there are some indications that France did wish to participate with the Eurogroup in the area of arms production and procurements,¹¹⁰ the other members, however, refused to let France participate - as they put it, "a la carte" - and held out hope that fear of losing ground in sales should the Eurogroup succeed in developing systems which the United States would buy would force France to be more cooperative across the board. This tactic failed, although France was clearly tempted.¹¹¹ France's response instead was to turn to the moribund Western European Union, of which it was a member, as an alternative to the Eurogroup. Responding to a proposal by French Foreign Minister Jobert in a speech in November, 1973, that the Standing Armaments Committee of the WEU "provide the privileged framework for European cooperation in armaments manufacture,"¹¹² the WEU did take some initiatives to study and pursue standardization efforts.¹¹³

The WEU (like the Eurogroup) could not, however, adequately represent all of the European NATO members (Norway, Denmark, Germany, Turkey, Portugal and Iceland were not members). As a result, and reinforced by suspicion of French motives, the other Eurogroup members never took France's initiative seriously and the WEU never became a serious force for standardization.

The Independent European Program
Group (IEPG)

The hopes of the Eurogroup members, however, were raised again when in late 1975 France, realizing "that the WEU was a nonstarter" and particularly "after the French Mirage F-1E had lost out to the American F-16 in competition to find a replacement for the Belgian, Dutch, Danish, and Norwegian F-104 aircraft" appeared willing to compromise.¹¹⁴ While pressures to join with other European nations were strong, they were not strong enough to overcome Gaulist objections to Eurogroup membership.¹¹⁵ Thus, the French sought a new forum within which to cooperate. What emerged was the new European Program Group (the EPG; now known as the Independent European Program Group or the IEPG). As an analyst of this effort noted:

Late in 1975, the French accepted a proposal tendered by the Eurogroup members to form a new group, separate from all the European or Atlantic organizations, to work towards European armaments cooperation. In February 1976, representatives of France and the Eurogroup members met in Rome and agreed to form the independent "European Program Group (EPG)."

The first meeting of the EPG was, by all reports, harmonious and productive. It was reported that the countries agreed that the goals of the group included to:

"(1) Bring about a more effective use of funds for the production of military equipment; (2) Increase the standardization and interoperability of military equipment with the aim of improving cooperation on use; (3) Strengthen the European factor in relation to North America; (4) Maintain a European defence industry as well as a valid technological base, in order to place Europe in a valid position with the United States." The EPG members agreed on a work program focusing on the following tasks: "(a) harmonization of current defence equipment programmes and their dates of replacement; (b) search for medium- and long-term armaments of projects of common interest, whilst finding, if possible, the bases for beginning production of this equipment; (c) elimination of projects which are being developed in a parallel fashion by different countries; (d) study the question of compensatory mechanisms."¹¹⁶

Although the IEPPG has no permanent staff,¹¹⁷ three subgroups have been formed to handle tasking: one on Harmonization of Timetables (similar to the NAPR and Eurogroup effort to coordinate replacement schedules through 1990), a second on Coordination of Programmes, and a third on Defense, Economics and Procurement (to study the political and industrial procedures to be followed to coordinate arms production and the economic problems which would be encountered.¹¹⁸ The IEPPG was to operate at two levels: "At the political level through the Under Secretaries of State for Defense and at the technical level through the National Armaments Directors."¹¹⁹

French cooperation within this group and within the NATO Ad Hoc Committee on Equipment Interoperability¹²⁰ has significantly altered and even enhanced the framework for discussion of standardization.

As the Library of Congress study points out:

. . . Perhaps most important is the fact that all European members of NATO, including France and Greece which do not participate in NATO's integrated command, and Portugal which joined the EPG in the fall of 1976, are now active

in the work of the EPG. Neither the European Community nor the Eurogroup include such comprehensive European participation. With European discussions of standardization now handled in the EPG, the Eurogroup will focus its work on other areas of cooperation. And for the time being, armaments experts in NATO have chosen to concentrate on promoting interoperability of NATO forces pending further development of the EPG.¹²¹

While this development has deferred efforts towards full standardization, proponents still see it as the framework necessary to that full standardization; whether this optimism will be fulfilled is certainly unclear. Some critics see the French participation as a hurdle to standardization while others disagree:

. . . One interpretation is that the French merely intended to and at least temporarily have succeeded in slowing a momentum toward standardization policies (and slogans) that would leave France behind. At the other extreme is the interpretation that France had finally seen some of the bitter fruit of its own assertive independence and now is seeking genuinely (if self-interestedly) to participate actively in Europe-wide programs of defense cooperation so long as it is not pressured or forced to reverse its chosen path of independence of the NATO military structure. Unable fully to disbelieve either interpretation, most non-French observers have adopted a wait and see attitude and have applauded the energy with which the French have contributed to the discussions on interoperability. Moreover, there is some basis to welcome the pause for reflection that the French initiative gave to other NATO members and their initiatives that had gained perhaps a public momentum that could lead to disillusionment if not followed rapidly by new evidence of a new attitude on both sides of the Atlantic.¹²²

One major concern voiced throughout NATO has been whether the IEPPG, if indeed successful, will lead to a closed European market rather than leading to increased cooperation across the Atlantic. As the Government Accounting Office notes, "the formation of the EPG has prompted some speculation in the press and in some

quarters of American industry that one of EPG's ultimate aims may be to gain the support of its members for adopting a "Buy European" stance."¹²³ Supporting this concern is one of the IEPG's major goals, that of making ". . . European industries more efficient and cost competitive and to lessen intra-European barriers to cooperation."¹²⁴ While increased efficiency and cooperation within Europe could lead to increased trans-Atlantic cooperation, it could very well have the opposite effect.

The Trans-Atlantic Dialogue

The revolutionary growth of organizations focusing on standardization over the last ten years has, unfortunately, proceeded without any coordination. That is, no organization exists to link efforts of each group towards common and coherent goals as opposed to conflicting goals and objectives. A coordinating body for an effort of this nature is essential. No such body exists within NATO (recall the earlier recognition of this fact by the United States) and, even more dangerously, no such forum exists to coordinate intra-European efforts with United States and Canadian efforts. One analyst noted this limitation:

The missing link in the current framework is how the EPG's work will be coordinated with the United States and Canada. Working back through NATO committees may not be acceptable to the French, and the linkage question thus consists of both technical and theological aspects. EPG discussions of this subject late in 1976 produced no solution. The November meeting of the EPG at the political level resulted merely in expression of the EPG countries' intent to begin discussions with North America in the near future and a

requirement for the EPG National Armaments Directors to prepare a report early in 1977 on how to organize the trans-Atlantic dialog.¹²⁵

From an informal beginning in 1977, the Trans-Atlantic Dialog (TAD) has grown into a formal organization with agreed on terms of reference. The TAD consists of meetings and consultations between the Armaments Directors of the IEPG and the Armament Directors of the United States and Canada.¹²⁶ Under the auspices of the TAD, the United States proposed the triad of initiatives (dual production, MOUs, and Family of Weapons) discussed above.¹²⁷ Although the IEPG was designed to focus primarily on intra-European equipment matters, through the TAD the United States proposed to the IEPG some 17 United States systems for them to consider as candidates for dual production.¹²⁸ Thus, the TAD is the framework that ties together the CNAD, the IEPG, United States-Canadian collaboration, and even a fourth group, the Four-Power CNAD.¹²⁹ As the Secretary of Defense noted: "We seek continued exchange with the IEPG to accelerate CNAD work in these areas."¹³⁰

Although the framework is now in place, not all view it optimistically. A significant amount of concern focuses on how the Europeans (The IEPG) view their role and that of the TAD. Efforts by the IEPG to tailor the TAD to its own interests early in its life are cause for United States concern. Although reciprocity appears now to be the guiding force with the TAD, not all are sanguine about this prospect.¹³¹ Others have questioned whether the TAD, largely an extra-alliance framework, ought to receive so much of the United

States' attention. They see the need for an integration of efforts between the TAD and existing NATO forums, such as the Defense Planning Committee and the CNAD. The TAD ought to, in their eyes, assist, strengthen, and complement (not compete with) existing Alliance structures.¹³²

Policy Language

A final section in this chapter reviews the debate over formulation of the United States policy position on standardization and clearly illustrates the differing positions taken by the House and Senate; i.e., the high versus low view of the policy arena.

Prior to the 1974 cycle of the Defense Authorization and Defense Appropriation Legislation, no language pertaining to the need for standardization was included at any point in the legislative process. From 1974 to 1977, though, each Authorization Act contained specific provisions dealing with standardization, each of increasing strength. The history of those provisions reveals quite clearly the attitudes within both houses to standardization, at least on the broad policy level.

In 1974, the House Armed Services Committee reported a bill which contained no reference to standardization. The Senate bill that year, however, contained an amendment by Senator Sam Nunn (D-GA) which called for the Secretary of Defense "(a) to assess the consequences in cost and loss of combat effectiveness of failures to

standardize, (b) to make specific proposals for common action, and (c) to work within NATO to make standardization in research, development and procurement an integral part of the NATO planning process."¹³³

The House's only response to this relatively innocuous amendment was to require that the Secretary of Defense report his findings to Congress prior to submitting them to NATO, thereby keeping Congressional control over the process.¹³⁴

By 1975, Senator Nunn, following his trip to Europe, was prepared to push harder for standardization. The House bill, as reported by the Armed Services Committee and passed by the full House, again made no mention of standardization. The Senate bill, reported by the Armed Services Committee following extensive coverage of standardization in the hearings by Senators Nunn, Culver and McIntyre, contained the Nunn-Culver amendment, a powerful policy position on standardization. The amendment declared it to be ". . . the policy of the United States that equipment procured for U.S. forces stationed in Europe . . . be standardized The Secretary of Defense [was] directed to develop and implement procurement procedures to achieve standardization to the maximum feasible extent." The Secretary of Defense was further required to report all deviations from this policy and to justify such "noncompliance." Finally, the sense of the Congress that the Secretary of Defense already had sufficient authority to waive the provisions of the "Buy American" Act in order to pursue standardization was made explicit by the language.¹³⁵

No opposition to the amendment developed on the Senate floor, and it passed as reported by the Committee.

The Conference Report on this legislation, however, illustrates in clear terms the reluctance of the House to pursue standardization, even at the broad policy level:

The House conferees, although in agreement with the goal of standardization particularly in the area of communication and other similarly suitable equipment, expressed grave concerns that the import of this language as presently constituted could be misconstrued and possibly used to our disadvantage.¹³⁶

In compromise, several changes were made in the language. Rather than "the policy of the United States," it was to be the "sense of the Congress"; the requirement that the Secretary of Defense report on noncompliance was softened and no explicit mention was made of the Buy American Act being waivable (although the Senate conferees did stress this in the Conference Report).¹³⁷

These changes to the FY 1976 Authorization Act greatly softened the Senate's strong policy endorsement of standardization, thus setting the stage for another fight in 1976. As in previous years, the House Armed Services Committee hearings and report failed to touch on standardization policy. The Senate hearings, however, again frequently illustrated the Committee's concern with standardization.¹³⁸ (The Senate Armed Services Committee also chaired a major hearing during the authorization cycle on European Defense Cooperation, inviting representatives from State, Defense, and the North Atlantic Assembly (their Subcommittee on European Defense Cooperation) to

participate.) The bill, as reported by the Senate Armed Services Committee contained language identical to their FY 1976 bill plus an additional extensive section calling for increased cooperation in research and development and co-production among the allies (the Taft, Nunn, Culver Amendment).¹³⁹ After surviving a parochial floor challenge from the Maine delegation (upset over the loss of a machine gun contract by a Maine company to the Belgians) which resulted in an additional requirement on the Secretary of Defense to report to Congress on any agreement reached with NATO members calling for offset purchases, it was passed by the Senate.¹⁴⁰

The bill, surprisingly, met relatively few open objections in conference. While the House clearly had not changed its attitude - "The House conferees were concerned that standardization should not become a means of bypassing prudent considerations in the procurement process" - they had clearly accepted the prevailing pressures to at least make a policy-level commitment to standardization. The single conference amendment to the bill was, however, a potentially powerful limiting one which required "the Secretary of Defense to take into consideration in Defense procurement procedures the cost, function, quality and availability of the equipment to be procured while carrying out the policy of standardization."¹⁴¹

The standardization provisions and their modification (as well as lack of modification) touched off significant debate on the floor of both houses. It is clear that the House would have preferred much weaker language.¹⁴² On the other hand, Senators Nunn and Culver

also found it necessary to expand at some length on their interpretation of the single conference amendment.¹⁴³ As might be expected, on the House floor the amendment was interpreted as highly restrictive of foreign procurement while Nunn and Culver saw it as only a minor qualification with respect to the waiverability of the Buy American Act and implementation of standardization. The provisions were, however, approved by both houses.

As this lengthy analysis of the policy language has made clear, the attitudes of the two houses on standardization are markedly different. The House seems clearly a "victim" of low politics, with the subgovernment influence quite noticeable. The Senate, on the other hand, views standardization as high politics and seems to be minimizing the influence of the subgovernments in the policy-making process, responding instead to the administration. The inability or failure of the two to agree on the level (that is, to both treat it as high or as low politics) is an indication of the complexity of the problem and actually may exacerbate it as expectations are raised to unachievable levels. The problem is confused even more by the occasional unwillingness in the Senate to back up its policy positions with clear support on the working level.¹⁴⁴

Summary

This concludes the review of the organization and policy structure supporting NATO standardization as of late 1980. The rapid growth of organizations and the proliferation of policy

statements and initiatives in this area suggest that further growth is likely. Nevertheless, most proponents seem satisfied that a workable policy and bureaucratic framework exists within which implementation can begin. At least, they seem to agree that the time has come to test the framework now in existence and to modify it as experience requires. The next chapter is a critique of the policy and organizational framework outlined above and is also a limited attempt to evaluate the advantages/disadvantages and pros/cons of the entire Rationalization, Standardization and Interoperability (RSI) Program; that is, to evaluate the question of what level of standardization is desirable, to include a discussion of what is politically achievable.

Footnotes.

¹House Armed Services Committee, Hearings on NATO Standardization, p. 1499.

²North Atlantic Treaty Organization, Facts and Figures (Brussels: NATO Information Service, October, 1978), p. 228.

³U.S., Department of Defense, Rationalization/Standardization Within NATO, Sixth Report, January 1980, A Report to the United States Congress by Harold Brown, Secretary of Defense, January 31, 1980, p. 51.

⁴Library of Congress, NATO Standardization: Political, Economic and Military Issues for Congress, p. 11.

⁵James, "Standardization and Common Production of Weapons in NATO," p. 6.

⁶A. Martin Lidy, "NATO Standardization - An Alternative Approach," Defense Systems Management Review 1 (Summer, 1977): 47-48.

⁷NATO, Facts and Figures, p. 131.

⁸Robert James notes that this problem was inevitable due to NATO's refusal in its early days ". . . to establish a NATO armaments and equipment procurement organization with common funding and a certain amount of autonomy. . ." James, "Standardization and Common Production of Weapons in NATO," p. 6.

⁹NATO, Facts and Figures, p. 139.

¹⁰Library of Congress, NATO Standardization: Political, Economic and Military Issues for Congress, p. 11.

¹¹Ibid.

¹²Ibid.

¹³NATO, Facts and Figures, p. 139.

¹⁴Ibid., p. 140.

¹⁵ NATO Standardization and Licensing Policy--Exploratory Phase, Volume II: Main Report, by Robert A. Gessert, Project Director, OAD, CR-167 (McLean, Virginia: General Research Corporation, November, 1976), prepared for the European/NATO Directorate, Office of the Assistant Secretary of Defense for International Security Affairs, p. 4-3.

¹⁶ Department of Defense, Rationalization/Standardization Within NATO, Sixth Report, p. 58.

¹⁷ NATO Standardization and Licensing Policy, Main Report, General Research Corporation, p. 4-3.

¹⁸ Albert Martin Lidy, An Alternative Approach to Achieving NATO Standardization, Study Project Report PMC 75-2 (Fort Belvoir, Virginia: Defense Management School, November 5, 1975), p. 9.

¹⁹ NATO, Facts and Figures, p. 141.

²⁰ Lidy, An Alternative Approach to Achieve NATO Standardization, p. 9; See also Lidy, "NATO Standardization--An Alternative Approach," p. 51.

²¹ NATO, Facts and Figures, p. 141.

²² Ibid., p. 143.

²³ Ibid., pp. 143-144.

²⁴ Robert J. Clark, Corporate Director, Foreign Technology Affairs, Northrop Aircraft Corporation, Interview at Northrop Headquarters, December 1977.

²⁵ Ronald C. Wakeford, NATO Standardization Concepts, SRI Project 3916; Technical Note SSC-TN-3916-1 (Arlington, Virginia: Stanford Research Institute, Strategic Studies Center, September, 1975), prepared for Office of the Secretary of Defense for International Security Affairs, p. 9.

²⁶ Lidy, An Alternative Approach to Achieve NATO Standardization, p. 16.

²⁷ Lidy, "NATO Standardization--An Alternative Approach," p. 49.

²⁸ U.S., Congress, House of Representatives, Committee on Government Operation, Problems in the Standardization and Interoperability of NATO Military Equipment (Part I), Hearing before a subcommittee of the Committee on Government Operations, House of Representatives, 95th Congress, 1st Session, July 21, 1977, p. 22; See also the House Armed Services Committee, Hearings on NATO Standardization, pp. 472-473, for the JCS response to General Vogt which supports Vogt's argument.

²⁹NATO Standardization and Licensing Policy, Main Report,
General Research Corporation, p. 4-4.

³⁰Lidy, An Alternative Approach to Achieve NATO Standardization,
p. 20.

³¹As pointed out by Robert Komer, cited in NATO Standardization and Licensing Policy, Main Report, General Research Corporation, p. 4-3.

³²NATO Standardization and Licensing Policy, Main Report,
General Research Corporation, p. 4-3.

³³Library of Congress, NATO Standardization: Political, Economic and Military Issues for Congress, p. 11.

³⁴Ibid.

³⁵NATO Standardization and Licensing Policy, Main Report,
General Research Corporation, p. 2-11.

³⁶Ibid.

³⁷Ibid., p. 2-13.

³⁸"Arms Standardization and NATO Alliance," in U.S. Defense Policy, Weapons, Strategy and Commitments (Washington: Congressional Quarterly, Inc., April, 1978), p. 29.

³⁹Text of President Carter's address to the NATO Summit Conference, May 10, 1977; Reprinted in New York Times, May 11, 1977, p. A-14.

⁴⁰Ibid.

⁴¹U.S., Congress, Department of Defense Appropriation Authorization Act, 1975, Public Law 93-365, 93rd Cong., 2nd Sess., August 5, 1974, Section 302(c).

⁴²NATO Standardization and Licensing Policy, Main Report, General Research Corporation, p. 2-4; See also U.S., Congress, Department of Defense Appropriation Authorization Act, 1976, Public Law 94-106, 94th Cong., 1st Sess., October 7, 1975, Section 814.

⁴³NATO Standardization and Licensing Policy, Main Report, General Research Corporation, pp. 2-5 to 2-7; See also Department of Defense Appropriation Authorization Act, 1977, Public Law 94-361, Sections 802 and 803.

⁴⁴Callaghan, U.S./European Economic Cooperation, p. 1.

⁴⁵U.S., Congress, Senate, Congressional Record, 93rd Cong., 2nd Sess., February 5, 1974, 120:2139.

⁴⁶Three of Mr. Fine's reports were published in the Public Record; they are the 1973, 1974 and 1975 reports. Citations follow: For the 1973 Report and DOD Response: U.S., Congress, Senate, Congressional Record, 93rd Cong., 2nd Sess., February 5, 1974, 120:2139-2142 and May 30, 1974, 120:17007-17010; for the 1974 Report and DOD Response: Congressional Record, 93rd Cong., 2nd Sess., December 19, 1974, 120:S22381-S22386 and U.S., Congress, Senate, Committee on Armed Services, Fiscal Year 1976 and July-September 1976 Transition Period Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve, and Civilian Personnel Strengths, Hearings before the Committee on Armed Services, United States Senate on S. 920, 94th Cong., 1st Sess., part 10, April, 1975, pp. 5663-5670. For the 1975 Report and DOD Response: U.S., Congress, Congressional Record, 94th Cong., 1st Sess., December 18, 1975, 121:S22764-S22770 and U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., March 23, 1976, 122:S4016-S4019.

⁴⁷Senate Armed Services Committee, Hearing on European Defense Cooperation.

⁴⁸NATO Standardization and Licensing Policy, Main Report, General Research Corporation, pp. 2-12 to 2-13.

⁴⁹*Ibid.*, pp. 2-14 to 2-16.

⁵⁰U.S., Department of Defense, Major System Acquisition Process, DOD Directive 5000.2, January 18, 1977, Section IV-C-1-e.

⁵¹U.S., Department of Defense, Standardization and Interoperability of Weapon Systems and Equipment Within the North Atlantic Treaty Organization (NATO), DOD Directive 2010.6, March 11, 1977, Section I.

⁵²William J. Perry, "The Department of Defense Written Statement on NATO-Improved Armaments Cooperation," statement before the Research and Development Subcommittee of the Committee on Armed Services of the United States Senate, 96th Cong., 1st Sess., by the Honorable William J. Perry, Under Secretary of Defense for Research and Engineering, April 4, 1979, p. 11. Private copy of the statement presented by Dr. Perry, received by the author from the Department of Defense.

⁵³*Ibid.*

⁵⁴House Armed Services Committee, Hearings on NATO Standardization, p. 886.

⁵⁵NATO Standardization and Licensing Policy, Main Report, General Research Corporation, p. 2-9.

⁵⁶See House Government Operations Committee, Interim Report on the Standardization and Interoperability of NATO Military Equipment, p. 11, for criticism of DOD for failure to create this internal constituency.

⁵⁷Library of Congress, NATO Standardization: Political, Economic, and Military Issues for Congress, p. 3; NATO Standardization and Licensing Policy--Exploratory Phase, Volume I: Executive Summary, by Robert A. Gessert, Project Director, OAD, CR-167 (McLean, Virginia: General Research Corporation, November, 1976), prepared for the European/NATO Directorate, Office of the Assistant Secretary of Defense for International Security Affairs, p. 4.

⁵⁸Library of Congress, NATO Standardization: Political, Economic, and Military Issues for Congress, p. 3.

⁵⁹House Armed Services Committee, Hearings on NATO Standardization, pp. 410, 472, 509-513; NATO Standardization and Licensing Policy, Executive Summary, General Research Corporation, pp. 4, 24; "Arms Standardization and NATO Alliance," in U.S. Defense Policy, p. 33; and General Accounting Office, Standardization in NATO, pp. 111, 22, 31.

⁶⁰Text of Carter's address to the NATO Summit Conference, May 10, 1977, New York Times, May 11, 1977, p. A-14.

⁶¹U.S., Congress, General Accounting Office, NATO's New Defense Program: Issues for Consideration, Report to the Congress by the Comptroller General of the United States, Report ID-79-4A, July 9, 1979, p. 1.

⁶²Ibid., p. 5.

⁶³Ibid., pp. 5-6.

⁶⁴Ibid., p. 19; Senate Armed Services Committee, Hearings on NATO Posture, pp. 4-7.

⁶⁵House Armed Services Committee, Report on NATO Standardization, p. 36.

⁶⁶Based on discussions with Department of Defense officials, September, 1977.

⁶⁷Robert W. Komer, "Ten Suggestions for Rationalizing NATO," Survival, XIX (March/April, 1977), pp. 67-72.

⁶⁸Perry, "The Department of Defense Written Statement on NATO-Improved Armaments Cooperation," p. 4.

⁶⁹Ibid., p. 6.

⁷⁰Ibid.

⁷¹Department of Defense, Rationalization/Standardization Within NATO, Sixth Report, p. 58.

⁷²Perry, "The Department of Defense Written Statement on NATO-Improved Armaments Cooperation," pp. 6-7.

⁷³Ibid., pp. 8-9.

⁷⁴Ibid., p. 9.

⁷⁵James, "Standardization and Common Production of Weapons in NATO," p. 24.

⁷⁶See also Lidy, An Alternative Approach to Achieve NATO Standardization, pp. 28-33, and Lidy, "NATO Standardization - An Alternative Approach," pp. 53-55.

⁷⁷Perry, "The Department of Defense Written Statement on NATO-Improved Armaments Cooperation," p. 10.

⁷⁸Ibid., p. 10; U.S., Congress, House of Representatives, Committee on Government Operations, Problems in the Standardization and Interoperability of NATO Military Equipment (Part 2), Hearing before a subcommittee of the Committee on Government Operations, House of Representatives, 95th Cong., 1st Sess., November 10, 1977, p. 16; and Department of Defense, Rationalization/Standardization Within NATO, Sixth Report, p. 59.

⁷⁹House Government Operations Committee, Hearing on Problems in the Standardization and Interoperability of NATO Military Equipment (Part 1), p. 8.

⁸⁰U.S., Department of Defense, Annual Report, Fiscal Year, 1980, Harold Brown, Secretary of Defense, January 25, 1979, pp. 214-216.

⁸¹Department of Defense, Rationalization/Standardization Within NATO, Sixth Report, p. 52.

⁸²NATO Standardization and Licensing Policy, Main Report, General Research Corporation, p. 4-4.

⁸³NATO Standardization and Licensing Policy, Executive Summary, pp. 11-12.

⁸⁴NATO Standardization and Licensing Policy, Main Report, p. 4-9; Also NATO Standardization and Technology Transfer, Volume II: Main Report, by Robert A. Gessert, Project Director, CR-196 (McLean, Virginia: General Research Corporation, August, 1977), prepared for the European/NATO Directorate, Office of the Assistant Secretary of Defense for International Security Affairs, p. 43; and Heyhoe, The Alliance and Europe, p. 22.

⁸⁵Senate Armed Services Committee, Hearing on NATO Posture and Initiatives, p. 11.

⁸⁶House Government Operations Committee, Hearing on Problems in the Standardization and Interoperability of NATO Military Equipment (Part 2), p. 17.

⁸⁷Ibid.

⁸⁸Department of Defense, Rationalization/Standardization Within NATO, Sixth Report, pp. 51-52.

⁸⁹General Accounting Office, Standardization in NATO, p. 15.

⁹⁰Department of Defense Appropriation Authorization Act, 1977, Public Law 94-361, Section 803(c).

⁹¹Lidy, An Alternative Approach to Achieve NATO Standardization, p. 19.

⁹²North Atlantic Treaty Organization, The Eurogroup (Brussels: NATO Information Service, n.d.), pp. 21-22.

⁹³Ibid., p. 28.

⁹⁴Ibid., p. 39.

⁹⁵Ibid., p. 29.

⁹⁶NATO Standardization and Licensing Policy, Main Report, General Research Corporation, p. 4-6.

⁹⁷ NATO, The Eurogroup, p. 29.

⁹⁸ Lidy, An Alternative Approach to Achieve NATO Standardization, p. 20; see also NATO Standardization and Licensing Policy, Main Report, General Research Corporation, p. 4-5.

⁹⁹ NATO Standardization and Licensing Policy, Main Report, General Research Corporation, p. 4-6.

¹⁰⁰ Heyhoe, The Alliance and Europe, p. 7.

¹⁰¹ Ibid.

¹⁰² Ibid.

¹⁰³ Ibid.

¹⁰⁴ Ibid., p. 8.

¹⁰⁵ NATO Standardization and Licensing Policy, Main Report, General Research Corporation, pp. 2-13 to 2-14.

¹⁰⁶ Ibid., p. 4-7.

¹⁰⁷ NATO Standardization and Licensing Policy, Executive Summary, p. 12.

¹⁰⁸ NATO Standardization and Licensing Policy, Main Report, p. 4-6.

¹⁰⁹ Department of Defense Appropriation Authorization Act, 1977, Public Law 94-361, Section 803(c).

¹¹⁰ Library of Congress, NATO Standardization: Political, Economic, and Military Issues for Congress, p. 17.

¹¹¹ Ibid.

¹¹² Ibid.

¹¹³ NATO Standardization and Licensing Policy, Executive Summary, p. 12.

¹¹⁴ Library of Congress, NATO Standardization: Political, Economic, and Military Issues for Congress, p. 17; see also Heyhoe, The Alliance and Europe, p. 10, where Heyhoe notes that "for the first time, the special French relationship to NATO had cost them something, rather than increasing their return."

¹¹⁵Library of Congress, NATO Standardization: Political, Economic, and Military Issues for Congress, p. 17; see also Frederic M. Anderson, "Weapons Procurement Collaboration: A New Era for NATO?" Orbis 20(Winter, 1977):973-973, for reasons why.

¹¹⁶Library of Congress, NATO Standardization, pp. 17-18.

¹¹⁷Department of Defense, Rationalization/Standardization Within NATO, Sixth Report, p. 60.

¹¹⁸Library of Congress, NATO Standardization, p. 18; also Patrick Wall (British MP), "Can NATO Effect Standardization? A European View," Defense and Foreign Affairs Digest, 7(April 1979),:20.

¹¹⁹Wall, "Can NATO Effect Standardization?", p. 20.

¹²⁰NATO Standardization and Licensing Policy, Executive Summary, General Research Corporation, p. 13.

¹²¹Library of Congress, NATO Standardization, p. 19.

¹²²NATO Standardization and Licensing Policy, Main Report, p. 4-9.

¹²³General Accounting Office, Standardization in NATO, p. 17.

¹²⁴Ibid.

¹²⁵Library of Congress, NATO Standardization, p. 19.

¹²⁶Perry, "The Department of Defense Written Statement on NATO-Improved Armaments," p. 17.

¹²⁷Ibid.

¹²⁸Department of Defense, Rationalization/Standardization Within NATO, Sixth Report, p. 61.

¹²⁹Stephen M. Shaffer, "Problems of Alliance Performance: Armaments Cooperation in NATO," paper (draft) presented at the International Studies Association Convention, Los Angeles, CA, March 19-22, 1980, p. 17; also Perry, "The Department of Defense Written Statement on NATO-Improved Armaments Cooperation," p. 17.

¹³⁰Department of Defense, Rationalization/Standardization Within NATO, Sixth Report, p. 61.

¹³¹Discussions with staff officers working the TAD/IEPG issue.

¹³² Heyhoe, The Alliance and Europe, p. 26.

¹³³ Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1975 (Senate Report 93-884), May 29, 1974, p. 139.

¹³⁴ U.S., Congress, House of Representatives, Committee of Conference, Authorizing Appropriations for Fiscal Year 1975 for Military Procurement, Research and Development, Active Duty, Reserve, and Civilian Personnel Strength Level, Military Training Student Loads, and for Other Purposes, Conference Report to accompany H.R. 14592 (House Report 93-1212), 93rd Cong., 2nd Sess., July 24, 1974, p. 39.

¹³⁵ U.S., Congress, Senate, Committee on Armed Services, Authorizing Appropriations for Fiscal Year 1976 and July-September 1976 Transition Period for Military Procurement, Research and Development, and Active Duty, Selected Reserve, and Civilian Personnel Strengths and for Other Purposes, Report to accompany S.920 (Senate Report 94-146), 94th Cong., 1st Sess., May 19, 1975, pp. 118-121.

¹³⁶ U.S., Congress, House of Representatives, Committee of Conference, Authorizing Appropriations for Fiscal Year 1976 and the Period Beginning July 1, 1976 and Ending September 30, 1976, for Military Procurement, Research and Development, Active Duty, Reserve, and Civilian Personnel Strength Levels, Military Training Student Loads, and for Other Purposes, Conference Report to accompany H.R. 6674 (House Report 94-413), 94th Cong., 1st Sess., July 26, 1975, p. 69.

¹³⁷ Ibid.

¹³⁸ The Senate Armed Services Committee also chaired a major hearing during the authorization cycle on European Defense Cooperation, inviting representatives from State, Defense and the North Atlantic Assembly (their Subcommittee on European Defense Cooperation) to participate. See Senate Armed Services Committee, Hearing on European Defense Cooperation.

¹³⁹ U.S., Congress, Senate, Committee on Armed Services, Authorization Appropriations for Fiscal Year 1977 for Military Procurement, Research and Development, and Active Duty, Selected Reserve, and Civilian Personnel Strengths and for Other Purposes Report to accompany H.R. 12438 (Senate Report 94-878), 94th Cong., 2nd Sess., May 14, 1976, pp. 167-168.

¹⁴⁰ The Maine delegation's concern was over U.S. purchase of the Belgian MAG-58 machine gun which will be discussed later. Their concern was satisfied once they were assured that the language in

the current act would not apply retroactively. Their position is quite interesting; while accepting the authority of the Secretary of Defense to make offset agreements with foreign nations in the future (within, of course, limits), they were unwilling to subject their current project (understandably) to the same criteria. Their original amendment called for a total prohibition of offset agreements; this was modified to the reporting requirement after the above assurances were received. The reporting requirement, of course, is also a strong limitation to implementation, but one which is reasonable and probably good. See U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., May 26, 1976, 122:S8093 - S8094 for the debate on this issue.

¹⁴¹U.S., Congress, House of Representatives, Committee on Conference, Authorizing Appropriations for Fiscal Year 1977 for Military Procurement, Research and Development, Active Duty, Reserve, and Civilian Personnel Strength Levels, Military Training Student Loads, and for Other Purposes, Conference Report to accompany H.R. 12438 (House Report 94-1305), 94th Cong., 2nd Sess., June 25, 1976, p. 53.

¹⁴²See the debate on the House floor, especially the comments of Representative Samuel S. Stratton (D-NY); U.S., Congress, House of Representatives, Congressional Record, 94th Cong., 2nd Sess., June 30, 1976, 122:H7066-H7068.

¹⁴³U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., July 1, 1976, 122:S11322-S11323. Note also that Senator Culver was a participant in, although not a formal member of, this Conference. Some hill staffers claimed that the standardization amendment was passed largely on the basis of his "forceful personality" during the conference sessions.

¹⁴⁴See the case studies for examples of this lack of support.

CHAPTER V

POLICY EVALUATION

Although a thorough evaluation of all the implications of standardization cannot be done justice in a short work, an attempt to highlight some of the more prominent advantages and disadvantages is called for. This chapter focuses, in three sections, on both the advantages and disadvantages as well as some of the problems facing standardization. The first section addresses the question of desirability; that is, does standardization gain anything? The second section addresses the issue of feasibility; that is, regardless of the desirability of standardizing, can it be achieved? In this section, some of the hurdles to implementation are addressed with an eye to whether the hurdles are surmountable or whether they create such immense problems that the policy ought to be reconsidered. The final section evaluates the current policy/organizational structure from both previous viewpoints: is it desirable and is it feasible?

Desirability of Standardization

To some degree, the entire issue of standardization is moot in that DOD has implicitly put total standardization on a back burner (redefined it as a long-term goal) while pursuing interoperability as ostensibly the short term, intermediary step to full standardization. To many, relegation of full standardization to

this position is seen as a way to kill it permanently. Many others, however, see the process laid out by DOD as a genuine progression with full standardization a very real and live goal. In that sense, it is a real issue.

A critique of the rationale for standardizing would be incomplete without at least an acknowledgment of Thomas Callaghan and the role his monograph and the articles it has birthed have played. Published first in August of 1974, his U.S./European Economic Cooperation in Military and Civil Technology argued that some \$10 billion was being wasted yearly by the 14 NATO Defense Ministries and proposed a North Atlantic Common Defense Market which, he argued, would increase "conventional weapons development and procurement expenditures by 40% without raising present budgets."¹ His proposal called for: (a) a full offset on military account within 12 years (although costs would not necessarily be balanced on an annual basis but rather over several years) through establishment of a North Atlantic Common Defense Market; (b) cooperation in civil technology with, again, equal cost-sharing on agreed projects; and (c) open government procurement with an end to all "buy national" barriers (over the 12-year period during which the common defense market would be developing).² The result of this 12-year program, Callaghan argues, would be maximum standardization of NATO at the same or lower defense expenditures. Included in this proposal is a restructuring of European industry to allow it to both cooperate and compete with United States industry.³ A United States commitment to a "two-way

street" of procurement (meaning an equal flow in each direction) would be required to provide the political encouragement to Europe to take the massive steps necessary to restructure and redesign their industry and equipment.⁴

Ultimately Callaghan sees the United States and Europe as equal partners in the making of weapons decisions. As he argues,

. . . military concepts rarely face competition except in battle. Now they will face competition in the Allied system acquisition process. As the measure of common expenditures mount, Europe will have a say about concepts for the defense of Europe, military requirements, system characteristics and so forth.⁵

Unfortunately, Callaghan ignores the politics of these decisions: how, given the inability of the branches of the United States military alone to agree on concepts and systems (e.g., even on something as basic as a common belt buckle),⁶ are 14 different nations suddenly going to overcome the political inertia and hurdles and begin to agree? This question will be addressed in the following sections in more detail. Callaghan bases his argument on a religious acceptance of the need to standardize within NATO; he does not, unfortunately, evaluate that need. In fact, very few critics have evaluated the requirement for and desirability of standardization; most accept it (as has Callaghan) as a given. As Callaghan notes, ". . . economic necessity requires that all duplication of effort be eliminated."⁷

A more critical problem, from an academic standpoint, with Callaghan's work is its overall tone; it is not a scholarly piece of

work. Although full of facts, figures and assertions, it is almost totally devoid of footnotes. It is, quite simply, a polemic designed to build emotional support for standardization and Atlantic cooperation. As one critic has noted: "It remains interesting . . . to see just how far one can promote standardization where it is made a transcendental necessity arising from the dogma of the forced acquisition by the United States and Europe, of the 'same weapon systems, the same munitions, the same spare parts for their forces in NATO--through military exchanges'." ⁸ Further, the same critic notes, "Although its insufficient realism has quickly invalidated its conclusions, most of its main ideas have hardly been the object of public debate." ⁹

Unfortunately, Callaghan's work became an early force behind much of the impetus for standardization which developed on the Congressional side (especially in the Senate) and his prescriptions largely shaped the Congressional agenda and resulting programs. Both the heavy emphasis on the "two-way street" (which is criticized by the House Armed Services Committee's Subcommittee on Readiness, Standardization and Interoperability (RSI Subcommittee) as ". . . an exercise in sloganeering . . ." with ". . . no relevance to sound procurement practices") ¹⁰ and on European cooperation in the Culver-Nunn amendment owe their formulation, in large part, to Callaghan.

Fortunately, over the last several years more critical appraisals of the need have emerged. Critics of standardization policy have focused on five specific areas: (a) the type and

quality of weapons which would be available under standardization; (b) the differing objectives of the NATO members; (c) the true nature of NATO's problem; (d) the political implications of standardization; and (e) the question of standardization versus interoperability. In addition, a number of miscellaneous criticisms are reviewed.

Weapon Inventories Under Standardization

One of the major arguments implicit in the standardization issue is that better weapons will emerge if the efforts of the Atlantic Alliance are consolidated towards a single project or at least in the same direction (via competitive research and development directed towards common requirements). Included in this argument is the assumption that a standardized force will be a more effective force due to advantages of a common logistics system, better integration of systems, etc. However, not all critics accept this argument. They argue that: (a) diverse weapons systems may offer tactical advantages in some areas; (b) the quantity of weapons may be more important than the quality; and (c) forcing the United States to standardize/cooperate with NATO countries may lead to a degradation in the quality and capability of weapon systems available to NATO.

Diversity of weapons systems. The question of whether a force structure made up of diverse weapon systems is better than a standardized force structure is a complex one. At the heart of the

issue, it is simultaneously most difficult to quantify. No one has satisfactorily defined what level of diversity, if any, is useful. While figures on waste and loss of military capability are available, they are insufficient. Loss of military capability is an absolute and independent measure. It does not indicate or address the question of what tactical advantage was gained (or lost) by the duplication (i.e., the diversity of systems). Gardiner Tucker, former Assistant Secretary General of NATO for Defense Support notes one of these studies:

The Commander of the AMF has determined that, if armaments were standardized both within his force and with the potential host country, then the time for his forces to deploy and be combat-ready could be cut to less than half of what is today.¹¹

General Andrew J. Goodpaster, former Supreme Allied Commander of Europe also observed the lowering of capability: ". . . we are losing at least 30 percent and in some areas 50 percent of our capability due to the lack of standardization."¹²

However, as a Library of Congress report notes, addressing General Goodpaster's estimates:

. . . Although this estimate has become the basis for the commonly accepted measure of the net military benefits accruing from standardization, General Goodpaster has since explained that the estimate was worked out in terms of logistics support and constraints alone. Based on his review of a number of exercises, and particularly the study on the AMF, General Goodpaster determined that the maintenance of separate national lines of support reduced by 30-50 percent the support which could be provided to field forces, working against a fixed logistics capability. In summary, while the Goodpaster estimate provides an excellent indication of the military benefits which could be achieved in the area of

improved logistics, it does not purport to offer a more comprehensive gage of the overall balance between the advantages and disadvantages of total force standardization.¹³

General Alexander Haig, in testimony before the House Armed Services Committee, also challenged the false hopes which these figures, implying as they do a vast inefficiency, raise for the taxpayers. He argued that savings in the range Goodpaster suggested are just not possible, both due to military necessity (making "duplication" unavoidable at times) and because of political realities and imperatives in the weapons procurement arena.¹⁴ The Library of Congress report also notes a number of the arguments against standardization and in favor of diversification:

- Different types of equipment may be better suited for different climates and geography. . . .
- In some cases, a multiplicity of systems can complicate an enemy's planning problem. . . .
- There are honest differences regarding the "most correct" military doctrine and concept of force employment. . . .
- Different types of equipment designed to meet differing tactical concepts provide a degree of redundancy should one particular doctrine be invalidated in time of war. . . .
- If an important technological advance is made by one alliance member, but that state must defer incorporating the new technology into deployed hardware while a broader alliance agreement on standardization is negotiated, then an opportunity cost is incurred. . . .
- In most cases, the equipment replacement schedules of individual NATO members are not synchronous. . . .
- In the interest of standardization, states may agree to compromise varying requirements for specialized combat missions into a single multipurpose design. While this result will achieve a reduction in weapons types, it will leave the participating states with one weapon which cannot perform each mission as capably as a number of specialized systems.¹⁵

In a final example, Gardiner Tucker (a proponent of standardization) notes the possible consequences of coordination failures during joint operations:

The lack of common frequencies and codes for data transmission and of standard systems for identification of friend or foe, moreover, have been shown in recent exercises to lead to NATO destruction of NATO aircraft in a conflict. Of the substantial number of NATO maritime patrol aircraft which were (theoretically) shot down in one recent exercise, for example, subsequent analysis showed that more than 50% were attributable to NATO weapons.¹⁶

Here, however, the question of standardization is more properly one of interoperability and compatibility. And again, what is gained and what is lost by standardization from the standpoint of the advantages of having diverse systems vis-a-vis an enemy is not addressed.

In a word, then, the purported gains are viewed in a vacuum and may disappear when a broader view of standardization is taken. John Ford, Staff Director of the House Armed Services Committee, addresses this broader perspective:

. . .I think there is developing a consensus that attempting to standardize logistics systems would create more problems than it would solve. And that standardization might not always be desirable in those areas where the multiplicity of systems can confuse the enemy.¹⁷

John Daniels provides an even more detailed example of the advantages of diversity:

And a NATO commitment to uniformity--with the one possible exception of communications--would emasculate the potential for shocking surprise that is latent in any diversified force. Whether the U.S./British 105-mm., the British rifled 120-mm.,

or the German smoothbore 120-mm. is the best Russian tank killer is a subject of uncertainty on both sides of the Iron Curtain.

What is certain, however, is that the Warsaw Pact military planning job would be much simpler if NATO would standardize on only one weapon.

Uniformity is a natural attribute of alliances between societies that employ socialistic or communistic and other forms of totalitarian government. Individual judgment beneath the highest levels of government is incompatible with systems based on hierarchial bureaucracies and held together by military force.¹⁸

A slightly different view notes that acceptance of another's systems means acceptance of their tactics:

Adoption of foreign weapons entails at least partial acceptance of foreign tactics which are in turn shaped by a strategic point of view. Today, the increased diversity and sophistication of weapons systems reinforce the links between technical characteristics and tactics, tactics and strategy, strategy and politics. Advocates of standardization often ignore these links and claim that one country's weapon can substitute for a roughly similar foreign-made system.

Close air support--the use of aircraft to attack enemy troops only short distances from friendly forces--provides a good example of this linkage. The United States had developed the A-10, a subsonic, heavily equipped plane, designed to circle over enemy positions, relying on its rugged construction and sophisticated electronic countermeasures to survive enemy anti-aircraft fire. The Air Force designed the A-10 on the basis of its experience in Vietnam, where U.S. fighters could protect strike aircraft from MiG interceptors, and where anti-aircraft fire was heavy but unsophisticated. For a power with worldwide responsibilities, likely to fight against less-sophisticated armies than its own, the A-10 makes sense.

The British and the Germans, on the other hand, will have to operate against sophisticated Soviet defenses. They therefore rely on fast jets that make only one low pass over the enemy, using precision-guided or "smart," bombs to destroy their targets. Tornado and Jaguar make sense given these circumstances. Only a major war in Europe could establish which doctrine would work best there. Meanwhile, Soviet air-defense tacticians must plan to cope with both systems, a complicated task.¹⁹

And noting also the advantages of diversity, Cohen goes on:

Indeed, diverse weapons systems may offer tactical advantages to NATO in some areas. Tank warfare is an example. The British rely on heavily armored tanks firing large, accurate, and long-range shells. They expect their tanks to cooperate closely with infantry and artillery. The Germans, however, intend to deploy large numbers of lightly armored, fast tanks whose guns shoot similar shells but at relatively short ranges. As in the case of close air support, Soviet theorists must figure out how to cope with either force. They cannot develop tanks and tactics that deal equally well with both.

The unsynchronized procurement and replacement cycles of the allies ensure that some Western countries will always deploy weapons that incorporate the latest technology. The Warsaw Pact, however, must worry about sudden obsolescence of particular arms. For example, new forms of armor resistant to light antitank missiles, such as the British Chobham model, may protect tanks from antitank missiles. Tanks incorporating such advances should appear on line in NATO sooner than in the Warsaw Pact armies.²⁰

Another House Armed Services Committee staffer, Anthony R. Battista, provides a slightly more even-handed view but one which reinforces the point that standardization is not the best approach for all situations:

At times, duplication of effort is inefficient and sometimes it is efficient. At times it is best to have different hardware and different capabilities and capabilities that tend to overlap.

There are no universals in the business.²¹

Although these critics all argue the need for the advantages of diversity, like the proponents of standardization they also are unable to quantify the advantages of diversity. Like the proponents of standardization, they assume the reader will intuitively grasp the wisdom of their position. What still is lacking is an objective analysis of the need.

Quantity versus quality. Related to the question of how diverse the force structure ought to be is that of quantity of weapons versus quality. Although proponents of standardization do not generally admit to this as an issue, arguing that standardization means being able to have both quality and quantity, critics argue that standardization may in fact result in NATO having fewer weapons and that this may be a more dangerous situation for NATO than having a destandard force with more weapons.²²

Critics point to the fact that the cost savings argued by the proponents of standardization may be illusive and that, in fact, cooperative efforts will cause the product to be more, not less, expensive. One respected observer, F. Clifton Berry (a senior editor of Armed Forces Journal, International) notes the problem of low European productivity on the cost of the F-16. Cost estimates for parts of the F-16 to be produced in Europe were two to three times the costs of the identical parts produced in the United States.²³ Since the Memorandum of Understanding with the four European purchases called for contracts being placed in Europe equal to 10% of the value of the 650 aircraft the United States planned to purchase,²⁴ cost inflation due to European production would result in the United States' purchasing fewer aircraft for the same amount of money. Eliot Cohen points out that the coproduction agreement will add \$1 million to the cost of each F-16 built in Europe.²⁵ Whether the inflated prices will be offset by the gains due the Europeans

foregoing the expense of developing their own aircraft is uncertain.²⁶ Given that at least two other European aircraft were designed to compete with the F-16 for the four-nation European buy, it is difficult to see where any economic savings in NATO research and development were realized, at least in this case. In this case, coproduction will probably result in fewer aircraft being produced for NATO at a higher cost than would have resulted through a direct purchase procurement. Whether the European governments would have been able to politically accept the direct sales route is, however, another important question. It involves the question of offsets within a single project and leads one at the extreme to favor the Callaghan approach of a North Atlantic Market with offsets not tied to specific projects.²⁷ From this narrow perspective, Callaghan is correct - a project-focused offset program is not the way to pursue standardization.²⁸ But on the other hand, as noted above and as will be discussed under the question of political feasibility, Callaghan's plan itself is undesirable and probably impossible to implement. Given that, as I will argue below, a broad Atlantic Common Market is not possible, the resulting pursuit of standardization (by focusing on single projects) will lead exactly where critics argue--with NATO possibly more standardized but with fewer weapons that it can "afford" to have.

Arthur Smithies points out the elusiveness of (and even suggests the impossibility of attaining) cost savings in a series of reports prepared for the Secretary of Defense on the economics of

standardization²⁹ as does the House Armed Services Committee in the report of its RSI Subcommittee³⁰ noting that "Dual production will not produce significant cost savings except perhaps on the European side."³¹ Finally, problems of time are compounded under joint projects; one estimate argues that a project involving two nations takes 25% longer and one involving three takes 50% longer than single-nation projects.³² A frequently used rule of thumb which illustrates the problem in joint programs was summed up by Jean-Laurens Delpech in a widely-noted article in *Defense Nationale* in 1976:

The larger the number of participants the more difficult it is to reach agreement. What results is often the lengthening of the time required for programs and an unavoidable increase in costs. Without intending to poach in Parkinson's realm, one can formulate three necessary mathematical laws that apply when several countries cooperate in a weapons program:

- a) Program costs must be multiplied by $\sqrt[n]{2}$, compared to the costs incurred by a single country; n being the number of participants.
- b) The delay in completing the program must be multiplied by $\sqrt[n]{2}$, compared to the time required by a single country; n being the number of participants.
- c) The difficulties attending the export of a weapon jointly produced increases according to the geometric progression n^3 ; n being the number of participants.³³

Cohen notes several other examples of cost and time inflation due to cooperation in weapons development.³⁴ The result, he argues, will be fewer weapons for NATO:

It is hard to see how the qualitative superiority of NATO weapons can outweigh the Warsaw Pact's large numerical advantage. Unless defense budgets grow, expensive attempts to standardize will only provide NATO with fewer weapons. There is good reason to believe, however, that NATO will be better served by 1,000 XM-1 tanks and 1,000 Leopard 2s than by 1,500 standard tanks.³⁵

Finally, the RSI Subcommittee, in its report on standardization, notes its conclusions on cost savings:

It is unlikely there will be significant cost savings realized from arms cooperation. Approximately \$3 billion annually is available as potential savings if all duplication of effort is eliminated. This is less than two percent of the current alliance budgets. Thus cooperation, while it does allow some potential savings, is certainly not the total answer to NATO's problems.³⁶

The House Appropriations Committee likewise challenges these savings and the tradeoffs in a special section addressing Foreign Collaboration in Weapons Systems Development/Procurement in its report on the FY 1980 DOD Appropriations Bill.³⁷

Again, agreement on the issue of quantity versus quality is hard to come by. If, however, my argument that standardization will lead to decreased quantities of weapons is accurate and if standardization threatens that level of diversity which is desirable or even necessary, then one must begin to question whether pursuing standardization poses a threat to NATO weapon inventories. And if, as critics argue, standardization is likely to lead also to poorer quality or less capable systems, a serious challenge to standardization has been raised.

Degradation in quality. Arthur Smithies raises another important issue - that of the quality of systems resulting from standardization - in pointing out that in responding to the Warsaw Pact threat, the biggest advantage to the Western Alliance is the comparative advantage which lies in its capacity for technological

improvement.³⁸ And the source of that technological advantage is competitive research and development.³⁹

Smithies' concern is several-fold. On one hand, he notes that ". . . some proposals for standardization may actually stifle competition." As he notes: "Measures that put American technology in a straight jacket for the sake of standardization will be counter productive."⁴⁰ He points out also an interesting contradiction in standardization in noting that a ". . . dynamic technology may itself interfere with standardization . . . [for it] means that new systems are continually coming into being, while old systems continue to function."⁴¹ This, he notes, argues for interoperability over standardization.

As a result, Smithies argues that ". . . standardization must be pursued in the context of a defense economy that is sufficiently competitive to ensure technological advance."⁴² But he points out two challenges to this competition. The first is the old NATO Basic Military Requirement (NBMR) process. Although he notes that the procedure was abandoned in 1966, its basic premise (a need for centralized machinery) is still accepted within NATO.⁴³ In fact, since he wrote, the PAPS process with the MENS procedures (procedures very similar to the NBMR) has been established. Smithies asked, "What would the NBMRs be like if they did win unanimous agreement?"⁴⁴ As he answers:

If the NBMRs were to win the assent of the membership they would probably have to assign definite procurement

quotas to each member, covering both R&D and production. These quotas would tend to be based not on the relative efficiency of members, but on pre-conceived notions of equity. If this diagnosis is correct, the NBMR approach would be an effective method of stifling competition and technological advance in NATO. And that approach may not even be able to achieve agreement on standardization.⁴⁵

The F-16, often touted as an example of successful standardization, is a perfect example of the problem Smithies points to. Further, the cost overruns associated with it are attributable only to production; had it been cooperatively developed, the cost overruns would probably have been even greater and the performance probably greatly diminished. Experience within the United States alone with cooperative development of a fighter between the Air Force and Navy shows a long record of problems (the F-4 and F-111), and Europe's experience with the Tornado illustrates the performance and requirements problems which arise with cooperative development programs.⁴⁶

Smithies sees as the second challenge to healthy competition, Thomas Callaghan's "two-way street" proposal. Callaghan's proposal, Smithies argues, by requiring balanced trade (especially within the military sector alone) will lead to the inefficiencies and lack of competition he fears. The procurement agency proposed by Callaghan is likewise seen by Smithies as likely to encourage those inefficiencies which will lead to degradation in quality:

The Callaghan Report is silent on the organization and control of the agency. But in the NATO context, it would be governed by national representatives with veto power. It is hard to see how it could avoid getting into the process of distributing production quotas among the

European countries, whether efficient or not. In fact, the proposal seems to raise all the problems of the NEMRs.

Mr. Callaghan, himself, seems to share that point of view. While he asserts . . . that "cooperation must eventually become competitive" he adds, "This is stated as a procedural, not a basic principle. This is because competitive procedure must always be subject to the principle that benefits and burdens are equitably shared - the principle of just returns. The need for competition should be stated, but care should be taken not to insist upon it at an early date."

The Callaghan proposal could conceivably result in extensive standardization, provided the procurement authority was able to insist on it and the U.S. agreed. The resulting military effectiveness might be worth the loss of productive efficiency and technological advance that is likely to be involved. But in any event, it should not be adopted until a more competitive approach has been fully explored.⁴⁷

Smithies also argues that the General Research Corporation, in its preliminary report on NATO Standardization and Licensing Policy (a major study contracted for by the Assistant Secretary of Defense for International Security Affairs), by recommending that the United States participate in European consortia in the interests of standardization is making the same mistake Callaghan is:

It has been suggested by the GRC report that the U.S. should participate in European consortia in the interests of standardization. It is presumable to hope that collaboration on an Atlantic rather than a European basis could result on weapons systems that could be accepted without controversy throughout the Alliance.

This suggestion is unsatisfactory. The consortium approach is alien to U.S. industrial methods. By participating the U.S. could impair its own efficiency rather than increase that of European. The efforts that the U.S. has already made, such as LEOPARD I, at collaboration with single countries have not been notably successful. It seems clear that the U.S. principle that development should be the responsibility of a single organization should be retained. This does not preclude subcontracting for that development of components, incorporating components already developed under license from other producers on either side of the Atlantic.⁴⁸

In sum, Smithies is arguing that because of the uncertainty of the payoff, we ought not to try it. In a similar vein, a recent article on "European Equipment Cooperation" in the Journal of the Royal United Services Institute argued the dangers of cooperative research and development, focusing its criticism on the proposed Family of Weapons concept:

In essence, the family idea is that a number of systems should be identified, and development leadership of the systems in the family allocated to nations or groups of nations on an equitable basis between Europe on the one side and North America on the other, all participants agreeing not to initiate competing developments and to adopt the systems so developed if needed by their forces. Though imaginative and constructive, this approach inevitably brings its own problems. The most fundamental is the harmonisation of time-scales and operational requirements but even assuming agreement on these major factors, there remains the further difficult question of sharing the development work between Europe and North America. Elimination of duplicated R&D in particular arenas, while encouraging standardisation, will reduce insurance against failure in development; will reduce the scope of purchasers to select the best buy for their needs; and will be bound to impinge on the opportunities for individual European countries to participate.⁴⁹

Again, the need to hedge against uncertainty seems to argue also against over-emphasis on standardization. Several other articles have addressed this issue with conclusions in opposition to each other. Two industry representatives, as might be expected, argue in favor of quality and against standardization.

Large-scale uniformity--the ostensible goal of NATO standardization--does not seem to be practically achievable among the NATO nations. It is a dangerous goal because the compromises it generates move individual nations away from the admittedly expensive idiosyncracies on which their real military elan is based and toward a no man's land of

patchwork weapon systems where neither meaningful uniformity nor the confidence born of individual judgment can prevail.

It will be remembered that David had the good sense, before tackling Goliath, to reject his captain's armor and sword in favor of the weapon he understood best and believed in the most.

The fact that the reluctance to embrace standardization (based on some other nation's weapons) is greatest in those nations best able to assess and counter the Warsaw Pact threat with their own resources and least in those nations not so equipped, is a phenomenon familiar to many students of social welfare programs.

Uniformity is a kind of leverage that works both ways. A lot of first-class weapons can speed up the process of winning wars. A lot of third-class weapons can just as quickly speed up the process of losing. Will the underlying purpose of standardization--fundamentally socialized economics--tend to produce first-class or will it result in third-class weapons?⁵⁰

And:

Any gains achieved through lower costs or increased effectiveness of items procured would be almost coincidental. While there are some real gains to be realized purely from standardization and interoperability, these gains are not likely to be nearly large enough to offset the costs associated with relatively inefficient production and poorly designed equipment. There can be no doubt, in fact, that RSI achieved around costly, ineffective, or inappropriate products is likely to provide far less defense capability than the reverse situation. It seems to me that a situation in which a few people do things right while many do things incorrectly is preferable to a situation in which uniformity is achieved by all doing the wrong thing.⁵¹

The General Accounting Office (GAO), on the other hand, in its 1978 report on standardization notes the problem of adjusting the level of sophistication to varying national requirements, but concludes that ". . . it may be appropriate for the United States to agree to somewhat less sophisticated and more affordable requirements in order to lead the way."⁵² The GAO also notes three

reasons why national requirements tend to lead to differing levels of sophistication and types of weapons:

- Dissimilar assessments of the threat and use of varying doctrines and tactics (e.g., tank tactics between the French, Germans and British);
- Broader national requirements (the world-wide responsibilities of the U.S.);
- Non-military concerns (limits of technological capabilities or resources, marketing of products to third nations, etc.).⁵³

Although the GAO ends up arguing for lowering sophistication in order to procure standardized weapons, they note the need to evaluate carefully the tradeoffs:

. . . evaluation of the proposal for buying less-than-the-best should consider (1) the potential for increased quantities if quality is reduced, (2) the importance of capabilities which would be lost, and (3) perhaps the more rapid obsolescence of less technologically advanced weaponry.⁵⁴

Critically, the GAO notes the uncertainty surrounding the effects of standardization on both quantity and quality as they note the possibility of losing both through collaborative ventures:

Although differing equipment requirements do not necessarily preclude multinational cooperation in weapons development, they can have detrimental effects on collaborative projects and reduce the participation in such projects. In certain cases joint development projects result in more expensive equipment because of the need to accommodate multiple national preferences. The result may be a more complex piece of hardware than any single nation desired. Dutch spokesmen told us this was the reason the Netherlands withdrew from the MRCA currently being developed by the United Kingdom, Germany, and Italy. The Dutch did not believe they required the expensive and complex aircraft to perform their assigned missions.⁵⁵

In fact, if this is the result, standardization has resulted in both degradation in quality and sophistication as well as sacrifice in numbers and diversity of systems. It is this danger,

one which has emerged in several previous attempts to standardize (see the MBT-70/XM-1/Leopard II case study), which causes the critics to advise caution and careful evaluation of standardization programs.

Conflicting Objectives Within
NATO

A second area in which critics have challenged the wisdom of pursuing standardization focuses on the various objectives of standardization. They note three objectives of standardization: military effectiveness, political benefit, and economic benefit. Critics argue each NATO nation has assigned independent and often differing priorities to each of these objectives; in fact, critics argue that some give only lip service to goals which others see as primary. Two concerns come to mind as a result. First, the three goals may be incompatible; Arthur Smithies makes this argument and it is implied in the discussion of quality and quantity above. A second concern, and one which Congress is focusing on, is the concern that the United States is bearing a disproportionate amount of the weight in pursuit of standardization, making political and economic sacrifices to Europe for increases in military effectiveness which may be illusive (as noted in the section above). If, in fact, standardization does not really lead to the military advantages proponents argue it will, then the United States is, in effect, subsidizing European interests with no return. John Ford, Staff Director of the House Armed Services Committee, put this rather well

after noting that while ". . . the European countries are serious about the two-way street, and we have to listen to them," cautioned that ". . . for U.S. industry, the question is how to walk on the two-way street without becoming known as the easiest girl on the block."⁵⁶

A good summary of the three objectives noted earlier was developed by Michael Eiland in a 1977 article in Strategic Review. In addition to military effectiveness and economics in production, he notes that among the political benefits to Europe of stronger defense industries are (a) the ability to accomplish social and economic goals via arms production; (b) advantages gained because of the important role military transactions with third countries play in providing export earnings; and (c) the hedge in technology provided via weapons research and development.⁵⁷

The General Accounting Office notes the priority placed on economic and political motives by Europe and points out that the Europeans recognize that United States support is based primarily on the perceived military benefits.⁵⁸ Although the GAO does not pursue this line of thought, one possible conclusion is that recognizing that the United States is not primarily concerned with economic benefits, the European nations are free to pursue their political and economic objectives with cooperation from the United States--in fact, with United States' sacrifices to aid them. The corollary, noted earlier, is that should increases in military

effectiveness not emerge as one of the actual benefits, the support of the United States may begin to diminish. This argument is made by D.C.R. Heyhoe in an evaluation of the new European Program Group:

The 'two-way street' is in fact a convenient piece of jargon denoting a number of different objectives. From a European point of view, its value is to help maintain a strong European defence industrial base, and specifically to redress the imbalance in arms purchases between the United States and Europe, which currently favours the former in a ratio of about 10:1. From a wider standpoint, it is a means of achieving standardization of equipment throughout the Alliance, and of making the best use of increasingly stretched Alliance resources. If the European partners pursue the first of these aims without--as is entirely possible--also embracing the idea of a 'two-way street', the result will be the exclusion of the other two objectives, which are the ones to which the United States attaches importance.⁵⁹

Numerous other critics have pointed out conflicting objectives, all pointing to the European focus on military and economic goals (even aggrandizement in one view)⁶⁰ as opposed to the United States' focus on military goals.⁶¹ Thomas Callaghan must admit this distortion of goals:

Europe's defense industries are expected: first, to provide employment; second, to balance the balance of payments; third, to amortize research and development costs through exports; and fourth, in line with the first three, to provide for the national interest [Italics mine]⁶²

As Callaghan admits, this attempt at prioritization of goals vis-a-vis United States priorities "will eventually hurt Europe."⁶³ Arthur Smithies, in a somewhat different vein, goes beyond the criticism of differing objectives and links the problem of conflicting objectives with his earlier argument that at least two of the objectives may be incompatible:

The two objectives of standardization, maximum economic efficiency and maximum military effectiveness may not be simultaneously attainable. The military benefits of standardization may (in some instances) involve increased economic costs, and economic efficiency may reduce military effectiveness.

Increased costs can occur in at least two ways. In the first place, standardization may be politically attainable only through permitting and subsidizing production in the weaker members of the Alliance. This is a feature of some of the comprehensive proposals now under consideration. The same problem can arise with respect to particular weapons systems. To obtain NATO-wide adoption of a particular system, it may be necessary to induce members to accept it by offering them high-cost coproduction arrangements. Secondly, the achievement of standardization and its military benefits will depend on the rapidity with which non-standard equipment is discarded. If that equipment is still usable, an economic cost will be incurred if it is prematurely discarded.

Economic efficiency will be bought at the price of military effectiveness per unit of equipment if, when once it is achieved, it involves a freezing of designs and military techniques and thus inhibits an adaptive response to changes in the threat. This point may be particularly important if standardization involves complicated negotiations on an Alliance-wide basis. Harking back to 1940, the Spitfire and the Hurricane defeated a standardized Luftwaffe. Furthermore, as noted above, some diversity among systems may be desirable from a military point of view, in view of uncertainties and ambiguities concerning the threat. Here again standardization can involve less military effectiveness than a higher-cost more diverse system. That is not to say, however, that diversity as it now exists meets those requirements.

In short, there can be a trade-off between military effectiveness and economic efficiency. Since the Alliance is operating under severely constrained budgets, recognition of this trade-off is important. Standardization at increased cost will tend to reduce force size and these must be compensated by sufficient increases in military effectiveness. On the other hand, economically efficient standardization will permit a larger force within a constrained budget. The increase in numbers may compensate for reduced efficiency. This may in fact be the strategy in the Warsaw Pact. The fate of the Luftwaffe may provide some reassurance.

These considerations suggest that the best solution may be a compromise. Neither military nor economic efficiency

can be maximized as a single objective. Only in exceptional instances is it likely that there will be full compatibility between the two objectives.⁶⁴

If, indeed, Smithies is correct, the fact that the two objectives are being pursued without recognition of their incompatibility may result in a standardized NATO with fewer and lower quality weapons. This outcome would be disastrous.

A topic related to conflicting objectives is the two-way street. Europeans have adopted the two-way street as the means of obtaining a larger share of NATO procurement. Quite simply, it is perceived by the Europeans as a means of increasing their share of the defense trade. The United States, ironically, taught the Europeans how it worked by insisting in the late 1960s and early 1970s that the Europeans provide offsets for United States troops deployed in Europe. The Europeans have turned the tables and are now requiring offsets for weapons purchases and, as a result, are insisting on dollar-for-dollar equity, usually on a project basis (as we taught them).⁶⁵ The concept was expanded to the broader area of total defense procurement by, among others, Thomas Callaghan in 1974.⁶⁶ Congress has reinforced the concept,⁶⁷ and the President⁶⁸ has likewise adopted it. That the Europeans learned quickly and well was demonstrated during the hearings on European Defense Cooperation before the Senate Armed Services Committee in March of 1976. The statement of Mr. Carl Damm, a member of the German Bundestag and member of the North Atlantic Assembly's Subcommittee on European Defense Cooperation illustrates this:

. . . to speak quite frankly: I personally do not see any possibility for the Federal Republic of Germany to take part in the AWACS program unless the U.S.A. spends a corresponding amount on German tanks. This would be a fair deal, a "two-way street."⁶⁹

The eventual failure of the tank procurement led the Germans to link AWACS to United States purchases of three other German systems: the 120-mm tank gun, German equipment for installation of a telephone system for United States forces in Europe, and German non-tactical vehicles.⁷⁰

One of several excellent examples of how tenuous the two-way street can become when a specific project runs into problems is the intended purchase by the United States of the British Sky-Flash air-to-air missile. When the British began to show signs of resistance to the purchase of the United States' AWACS aircraft, the United States immediately cancelled plans to buy 500 of the Sky-Flash missiles. As one DOD official admitted, ". . . that buy was contingent on United Kingdom AWACS involvement and is no longer viable."⁷¹

One critic neatly summarizes the United States' dilemma:

Thinking about NATO is beclouded by the concept of the military balance of payments and the option that equality should be achieved between payments from Europe and the U.S. and vice versa. The idea has been narrowed further to prescribe balance in military procurement and even further to require an approach to balance in high technology procurement. These ideas are most clearly articulated in the Callaghan Report, but that report reflects much of European thinking.

This point of view is of course anathema to rational economics. No one suggests that military trade of the U.S. with Iran and Israel should be balanced. France has

a military surplus overall. Yet it is implied that Norway should not buy guns by supplying civilian tankers. Military balance is a concept that seems peculiar to U.S. dealings with Canada and Europe.

Unfortunately, the U.S. is largely responsible for the introduction of the idea into international negotiation. The World War II agreement with Canada, that still continues, contemplates substantial procurement balance over a period of time. U.S. expenditures in Canada for oil, uranium or the maintenance of U.S. troops in Canada are not considered an offset to Canadian military expenditures in the U.S. However, Canada has agreed that most high technology items should be produced in the U.S.

During the 1960s, when overall balance-of-payments problems afflicted the U.S., it required that U.S. troop expenditures in Europe be offset by European military expenditures in the U.S. or in Europe on behalf of U.S. troops. The U.S. objective was to achieve military balance with Europe.

Most recently the Jackson-Nunn Amendment required full offset for 1973-74 of U.S. troop expenditures in Europe. This amendment was a political device designed to counter pressure for reduction of U.S. troop strength in Europe. But its political appeal rested on acceptance of military balance as a valid concept.

The U.S. has now been hoist with its own petard. Some European countries have seized on the notion of procurement balance as a device for protection of defense industry. If a country has a procurement deficit the U.S. is supposed to increase its purchases regardless of their cost.⁷²

Recently, powerful criticisms of how the two-way street is being interpreted and of the concept itself emerged during hearings before the House RSI Subcommittee. These criticisms ought to be read in their entirety.⁷³ As the committee report summarizes and as testimony from the DOD pointed out:

The Europeans want to emphasize the trade in arms and high technology systems. From their viewpoint, an increase in their sales of such items would provide 1) growth prospects for their relatively small scale arms industries, 2) concomitant political benefits via employment and enhanced prestige, 3) technology spin-offs in both civilian and military sectors, and 4) an improvement in their balance of payments.⁷⁴

The most significant criticisms are directed at what is counted on the two-way street. When one looks at arms trade, the United States' advantage is admittedly on a scale of 10/1.⁷⁵ What one looks, however, at the total balance of trade in military and defense-related goods and services, the balance switches to an annual United States deficit of between one and two billion dollars.⁷⁶ The subcommittee concludes:

There is no compelling reason for acceptance of the European definition of the "two-way street" as opposed to the broader definition of defense expenditures. Clearly, the United States is incurring a substantial annual deficit in defense transactions with Europe--a deficit now approaching \$2 billion a year. The subcommittee sees no rational justification for isolating the one segment of the transatlantic defense trade which produces a surplus for the United States.⁷⁷

In spite of almost total agreement from DOD witnesses that the two-way street ought to include all defense-related material,⁷⁸ the committee could find no firm guidance on what the two-way street meant. From the Presidential level on down, no attempt has been made to define what the two-way street implies. One DOD witness (Dr. Ellen Frost, Assistant Secretary of Defense for International Security Affairs), when asked if the United States government had defined what the two-way street actually means, replied:

. . . That's a good question. It is one I thought a little about. The short answer is no. We have not defined "two-way street" in the ways that you suggested. We have not defined it in any particular narrow sense. It is a kind of term that we use to describe a great many kinds of changes in defense procurement.⁷⁹

In summary, the committee concluded:

It is apparent that there is only a vague, understanding of what the "two-way street" is, and that there are no specifics as to what it is and what kind of trade it involves.

On the other hand, the Europeans wish to see it confined strictly to weapons systems. However, when it suits their purpose--as in the case of the German position on the AWACS sale--the definition is elastic enough to include commercial telephone equipment, school buses, sedans and fork lifts.

One Defense Department official suggested that we had to buy more European equipment in order to keep our NATO allies from boycotting U.S. hardware. Other officials, however, said that the "two-way street" was an exercise in sloganeering and that the concept had no relevance to sound procurement practices. The subcommittee concurs with this view.⁸⁰

One other critic suggested that to force the two-way street is to try to offset a natural state of affairs:

While it is true that the NATO allies of the United States have procured substantial amounts of equipment--including major weapon systems--from the United States, the United States in its turn has bought comparatively little from its NATO allies. Virtually all of the items procured by the NATO allies from the United States have been in areas where the procuring country has had no existing domestic production capability.⁸¹

And, as Dr. Shields notes, the United States is the only NATO nation which has made a national commitment to pursue efficient use of allied resources:

. . . President Carter informed the North Atlantic Council in May 1977 that: "I have instructed the Secretary of Defense to seek increased opportunities to buy European defense equipment where this would mean more efficient use of allied resources." If the other NATO heads of government would issue similar instructions to their respective Defense Ministers, then a foundation would be laid for what, with further joint effort to devise individual country procurement guidelines with common core provisions, would become true NATO-wide competitive procurement. No NATO country at the present time possesses such a procurement policy.⁸²

Given this failure, he argues that, for these nations, it appears that the two-way street

. . . means nothing more than a movement toward a reduction in the present military procurement balance, which is heavily in favor of the United States, accomplished by the United States purchasing relatively more in the future from its allies. The implication of that two-way street idea is that the primary goal to be attained is some sort of procurement balance, with economic and military efficiency secondary considerations. Both of these views seem to be concerned almost exclusively with issues of commercial or economic advantage.⁸³

In a final example (this from an economics viewpoint), Keith Hartley, lecturer at the University of York, writes in the Royal United Services Institute Journal:

Indeed, why [are] the MOUs concerned with balance in a specific product group, namely weapons? Comparative advantage suggests that gains result from international specialization and exchange in a free trade, competitive world economy and not necessarily from a product specific bilateral agreement.⁸⁴

In conclusion, then, the fact that different participants have differing objectives and that these differing objectives lead them to pursue goals which are inconsistent and may be incompatible, and more seriously, that attempting to achieve all of these goals may lead to none of them being achieved, bodes poorly for the chances of any improvement in NATO's defensive capability.

NATO's "Real" Problems

A somewhat different criticism of standardization is raised by Stephen Canby in an article in Survival in 1977. It is also alluded to by the RSI Subcommittee report where they note, with skepticism:

In recent years, discussions about NATO have been dominated by two themes: The first, that the alliance suffers from severe military readiness deficiencies which can be supported to some degree by demonstrable facts and make it particularly vulnerable to a blitzkrieg-style attack by the Warsaw Pact; the second, which is based on theory and supposition is that the alliance squanders its defense expenditures through unnecessary duplication, lost economies of scale, and the loss of so-called force multipliers which would result from standardization and interoperability of doctrine and equipment.⁸⁵

As the committee points out later:

Proponents for increased standardization have stressed the fact that the alliance has eight different Anti-Tank Guided Missiles (ATGM). But in the opinion of the sub-committee, the major anti-armor deficiency of the alliance is not the existence of eight different missiles, but rather the lack of adequate inventories of ATGM's in NATO European units; seventy-five percent of all the ATGM's in the NATO inventory are found in U.S. units.⁸⁶

Canby's argument is based on a broad-scale criticism of United States and NATO tactics and doctrine, one he has long been fighting. But it does raise new and useful perspectives on the problem. And, as he notes, it raises the spectre that instead of attacking the causes of NATO's malaise, we have been attacking the symptoms:

Is the key problem 'waste and duplication' within the Alliance or is it a fundamentally flawed operational doctrine? What is the hard empirical basis of the argument for standardization? Where are the hard numbers? How much do common logistics really reduce the size of the divisional slice (now, on average, double the mobilized Warsaw Pact slice)? Why does the largest NATO army--that of the United States--also have the largest divisional slice? And what factor allows countries like Sweden to operate with aircraft-to-men ratios several times higher than NATO air forces?

Does NATO need better-equipped and readier forces or does it need a combination of relatively small ready forces backed up by large numbers of mobilizable reserves in units? How can

an army deployed in a linear fashion and with small reserves cope with one specifically designed to counter a linear defense with manoeuvre and deeply echeloned reserves?

Is reliance on technological advantage to compensate for numerical inferiority a wise policy for NATO? How does a strategy which presumes protracted attrition on the battlefield perform against an opponent which stresses manoeuvre, the avoidance of attacks against positions of strength, and which aims at achieving a paralysis of NATO's command system?⁸⁷

Canby then proceeds to challenge most of the assumptions of standardization, including the cost savings,⁸⁸ the political problems (to be discussed below), the benefits from common logistics (noting a savings of only some 2.5% which is much less than others have argued), and the failure to rigorously quantify the claimed benefits.⁸⁹ He ultimately challenges whether the gains of interoperability achieved through standardization are worth it:

Some would argue that even if savings do not materialize, the gain in interoperability still makes standardization worthwhile. This belief ignores that equipment interoperability can be largely obtained anyway via relatively low-cost compatibility in communications, ammunition and fuel, and that it can be lost through change introduced by multi-national licensing--the classic examples being the non-interoperable Roland air defence missile and the British F-4 Phantom.⁹⁰

In summary, he asks whether interoperability itself is worth what proponents claim, noting that within the United States and other NATO national forces, unit integrity is the rule and that the United States (for example), is backing "away from the notion that infantry and tank units within the same U.S. division are fungible and can readily combine to form cross-reinforced tank-infantry companies."⁹¹ As he argues:

. . . Small-unit interoperability has in fact little practical value, and inferences drawn from faith in the concept are suspect. Moreover, if multi-national operations are realistically limited to brigade echelons and upwards, much of the putative value of equipment, organizational and doctrinal commonality lapses. Brigade and larger units habitually have their own organic or attached logistic support.⁹²

Canby's conclusion, which flies in the face of the trend to standardize, is that "NATO's fundamental problem is neither 'will' nor the inherent problems of coalition warfare [as Robert Komer argues],⁹³ but inadequate conceptualization and understanding of conventional warfare."⁹⁴ As one analyst notes, Canby is arguing that the "economic logic of the standardization/joint procurement panacea has obscured the underlying military force deficiencies caused by non-optimal organizational structure and tactical concepts."⁹⁵

The Political Implications of Standardization

In his critique of standardization policy, Eliot Cohen takes up one critical challenge to standardization--the danger that the political disunity which will result from either the inevitable failures and setbacks along the way or from failure to implement the policy as a whole will more than offset whatever gains in military effectiveness, if any are realized. As he notes, ". . . [if] history teaches anything, it is that partners fighting a coalition war suffer most from political disunity, not logistical diversity."⁹⁶

In its report on standardization policy, the RSI Subcommittee also raises this question,⁹⁷ as do D.C.R. Heyhoe and Frank Bray and Michael Moodie in their studies of European cooperation.⁹⁸ Bray and Moodie argue that cooperation on a West European level is probably impossible.⁹⁹ Interestingly, however, they go on to argue for cooperation within an Atlantic framework.

The bitterness over the failure of the tank cooperative project is an excellent example of how political damage can result from failure to reach agreement on cooperative ventures. As the tank case illustrates, by making standardization a rallying point, symbolic of (in part) political unity, failure of that project damaged political unity, increasing hostility and suspicion among the allies.

The House Appropriation Committee, in a critique of standardization policy in its report on the FY 1980 Appropriations Bill, also addressed this question:

All of the problems which are presented in this report, many of them seemingly unsolvable, and the small amount of progress that has been made toward standardization raise two questions which the Investigative Staff believes should be answered in the negative.

First, are the increased total costs to the NATO Alliance resulting from coproduction, licensing, and other forms of collaboration justified by the standardization achieved?

Second, do the evidently sincere efforts of the high-level policy makers in the U.S. Government, in espousing such general ill-defined and poorly thought-out principles as the "two-way street" concept accomplish enough toward achieving standardization to overcome the harm done by the false hopes and frustration that result?¹⁰⁰

In summary, although one of the incentives for standardizing is to increase political unity (or to make a show of it) within the

Alliance, failures along the road to standardization will seriously damage that same unity. In fact, as some argue, the potential for damages far outweighs any gains possible.

Standardization Versus Interoperability

Another argument against standardization begins with the question of whether the Alliance might not better spend its time and effort on interoperability rather than standardization. Although paying lip service to standardization as a means to rationalize NATO, many actors involved in the policy have ignored standardization in favor of interoperability. While many of the latter group see interoperability as an intermediate step on the way to eventual standardization (the current position of the United States Department of Defense is a good example of this approach), there are strong proponents of both extremes as independent and separate objectives. Callaghan argues the full standardization position while Smithes and representatives of United States industry emerge as champions of interoperability. While the debate need not coalesce around the poles of standardization versus interoperability (indeed, many critics view the weapons problem as one of a spectrum, some areas of which are conducive to full standardization, others conducive to interoperability, with still others susceptible to a mix of the two), nevertheless, the theoretical debate generally reduces the argument to a black-white form. Further, while it is true that, as John Walsh (NATO's Assistant Secretary General for Defense Support) notes,

one can consider interoperability to be a "special case of standardization,"¹⁰¹ it does stand (as noted in Chapter II) "in opposition" to standardization when viewed in a political arena. One can pursue a policy of standardization, in which interoperability is also achieved de facto or one can pursue a policy of assuring interoperability without pursuing standardization (defined as commonality). Hence, it is useful at the policy level to set the two in opposition and to argue their opposing merits. (See Chapter II for a more detailed discussion of this definitional problem.)

Callaghan argues explicitly for standardization. He claims that interoperability gains nothing for the Alliance. But it is important to note that his argument is not based on military objectives. He notes that ". . . standardization requires trade. If Europe opts for interoperability for new weapons development, what is there to trade?"¹⁰² His argument is an economic one--he is arguing for an Alliance economic market and not for military efficiencies. As he notes, interoperability may provide all the military benefits the Alliance requires, but it "will not provide economics of scale:"

Can interoperability and licensed production be a substitute for standardization and military trade? I think not. Standardization requires economic cooperation within Europe, and between Europe and North America. Interoperability and licensed production minimize cooperative effort. Standardization requires political cohesion within Europe and within the Alliance. Interoperability and licensed production do not. Standardization will help meet our external challenge from the conventional force build-up of the Warsaw Pact, and our internal challenge

from inflation, from rising weapons costs and diminishing weapons inventories. Interoperability and licensed production will not.¹⁰³

Although Callaghan's goals may indeed be admirable, they present a clear danger. If, as the United States argues, the critical need for NATO now is improving military effectiveness, to submerge this goal within a broader goal of creating an Atlantic Economic Market (fraught as that goal is with political difficulties and clear dangers) may endanger the more immediate requirements of NATO. Callaghan is simply taking advantage of a simple, clear need (military effectiveness) to buttress support for a less well-agreed upon need (economic union).

As noted earlier, the DOD position appears to fall in the middle of the interoperability/standardization spectrum (although even that is not totally clear). Secretary Brown notes two slightly different DOD positions in the same testimony. Responding to a set of prepared questions submitted by Senator Nunn (D-GA), Secretary Brown shows interoperability as merely an intermediate goal with standardization as an ultimate goal:

Senator Nunn. Your statement emphasizes standardization and interoperability, especially interoperability in the short term. How much progress have you made on interoperability and at what levels of command?

Secretary Brown. First, we do see interoperability as the first step to eventual standardization. Although the latter gets most of the publicity because of the high visibility of major systems, interchangeable munition, interoperability of communications and command and control systems, and high consumption fuel may pay greater military dividends and be easier to achieve.¹⁰⁴

Yet, responding to a similar question from Senator Bartlett (R-OK), Brown argues both the above as well as the position that in some cases standardization and in other cases interoperability ought to be our goal:

Senator Bartlett. Shortly after the President attended the NATO Summit meeting in May and helped promote the steps toward standardization which you have described, several articles appeared in various defense journals arguing that the United States should not push for increased standardization, but rather should settle for increases in interoperability only. Do you agree with this view?

Secretary Brown. Interoperability and standardization are really two aspects of the same process, and there is no necessary contradiction between the two. Interoperability is a highly desirable interim goal that frequently can provide high pay-off, short-term benefits much earlier than full standardization. Hence, we see both increased interoperability and fuller standardization as complementary Alliance objectives. In some cases we should go for one and in other cases for the other.¹⁰⁵

While this later position is really not contradictory (in fact, it is probably the most realistic approach), it does demonstrate the confusion over what standardization means and implies:

The Department of Defense is unable to define clearly many of the terms it uses to explain standardization and interoperability concepts.

Standardization and interoperability have ambiguous definitions. These definitions have produced confusing and often conflicting guidance for translating policy into action. Rationalization is an incomprehensible term.¹⁰⁶

As the RSI Subcommittee further elaborated on their criticism of the confusion over standardization and interoperability:

There are two sets of definitions for standardization and interoperability: The official definitions which are ignored: and the highly individualized intuitive definitions everyone uses. These intuitive definitions have produced confusing and often conflicting guidance for translating

policy into action. They have also resulted in a division of labor. Standardization has emerged as the special province of civilian, industrial, and administrative military leadership, while interoperability has been the principal concern of military commanders.

The conceptions have resulted in vague assignments of priority and estimates of feasibility which have generally favored interoperability primarily because interoperability offers greater prospects for near term improvement in alliance military capabilities and will generally involve only modest expenditures. Further, stressing interoperability will have virtually no impact on equipment programs and therefore, minimal effect on future weapons development options. In essence, interoperability's greater attractiveness stems from its emphasis on improving the operational capabilities of existing equipment through the efforts of allied field commanders.

Attempts by the subcommittee to validate this prioritization failed. Without at least some understanding of benefits trade-offs between standardization and interoperability cannot be made.¹⁰⁷

The apparent contradictions in Brown's statements are understandable. Military preferences are clearly towards the interoperability end of the spectrum while others within DOD are pushing for standardization. Lack of clarity over what standardization entails (total effort across the board versus selected areas) further creates an ambiguity (and a flexibility) in policy direction.

The chief spokesman pushing interoperability over standardization within the military has been General Haig. While not going to the extreme of rejecting standardization, he largely relegates it to a theoretical position. John Ford, Staff Director of the House Armed Services Committee, noted this when he argues: "We are beginning to see that interoperability is a practical and immediate goal, that standardization in most cases, as General Haig has said,

is more theological than practical."¹⁰⁸ In testimony before the House Armed Services Committee, Haig noted: "I do like the emphasis on interoperability to work the standardization problem piece by piece . . ."¹⁰⁹ And in an interview in Armed Forces Journal, International, Haig argues even more strongly for interoperability:

. . . But I think it's wrong and foolish for Alliance officials to come forth for either the two-way street or standardization, unless good common sense justifies it. I have said that we've got to look for early progress in the high-consumption, low-visibility, non-politically volatile areas where national production interests are less concerned--fuel, for instance, is an area where we have made considerable progress, and we can make a great deal more.

We have to be selective and careful about larger procurements, and examine them in the context of a host of mutual benefits--being sure that we do not let quality suffer, that we do not drive costs up, and that we recognize that there are some systems that lend themselves to that, and that there are some unique systems that simply do not.¹¹⁰

John Ford summarizes his own position noting:

Conversely, I think there is developing a consensus that attempting to standardize logistics systems would create more problems than it would solve. And that standardization might not always be desirable in those areas where the multiplicity of systems can confuse the enemy.¹¹¹

And in an exchange which both notes the need to balance standardization and interoperability and reinforces Canby's argument that standardization is not the panacea to solve all of NATO's problems, Congressman Jack Brooks, (D-TX) and General William J. Evans Commander, United States Air Forces Europe and Commander of the Allied Air Forces, Central Europe, note the following:

Mr. Brooks. In your statement you point out that the policy of the NATO Command in Europe is that standardization is not the sole key to all of NATO's problems; there is still a definite need for force modernization. To quote your statement:

"How much the increased cost can be offset by efficiency gained through success in standardization cannot be measured. Also, standardization and interoperability should not be sold on the basis of saving costs especially in the near term. They are militarily essential."

General Evans. I might go on and say that we can over-standardize also. We should not insist on total standardization. If I were a Red planner and I looked across the line and saw one type of aircraft and one type of munition I would clap my hands, because if I could solve, then, the problem of defeating that one type aircraft and that one munition I would have the war won. So we need a certain amount of a mix of weapons, of tactics and munitions to do the job. But that does not at all deemphasize the need for interoperability and standardization.¹¹²

From another perspective, Stephen Shaffer, a congressional analyst at the George Washington University, noting the position of former Assistant Secretary General of NATO for Defense Support Walter LaBerge, argues:

There are no clear solutions to the problems of arms cooperation. A variety of suggestions are offered, such as enhancing trade through agreements to permit export of co-produced weapons and technology sharing, and the creation of national bureaucratic procedures to represent the Alliance perspective during national decision-making on weapons development and procurement. But total arms standardization is an illusory goal. One NATO official observed that many arguments favoring standardization have been quite unrealistic, even artificial, and he argued that total standardization is contrary to the competitive free enterprise system of Western economies and thus undesirable.¹¹³

The third position involving complete rejection of standardization in favor of full concentration on interoperability has received support from the French, United States academic and

military circles, industry and certain quarters of Congress (especially the House Armed Services Committee and from some elements in the Senate Armed Services Committee). That the House Armed Services Committee as a whole opposes any form of cooperation which limits or cuts into the United States' share of the NATO market will be demonstrated in the following case studies--the Roland and XM-1 cases are especially relevant. As one House Armed Services Committee staffer (later active in the RSI Subcommittee hearings) noted in an interview, the Committee ". . . does not blindly embrace standardization as a goal without looking at the broader aspects."¹¹⁴ In his view, the Committee was anxious to see what the benefits would be. On the Senate side, in spite of general support, opposition does exist to standardization within the Senate Armed Services Committee (see the later stages of the Roland case) and was expressed in an interview with one Senate Armed Services Committee staffer.¹¹⁵

Industry clearly opposes standardization, largely for the reason that it is unclear what it will mean. As one article reports, industry experts fear that:

. . . the way the U.S. is tackling the problem, "The Pentagon is going to give U.S. military markets to Europeans; give our technology away so Europeans can compete--and they (Europe) will milk us for all they can get until they can't get any more. Then they'll walk away from the problem."

Summed up Walter Edgington, speaking for the Electronic Industries Association:

"The Administration has adopted an approach which (1) acquiesces to politico-economic pressure from our European allies; (2) fails to account for the vast difference in Government-industry relations abroad; (3) fails to recognize the impact of third country sales; (4) and, most importantly,

appears to be placing new equipment development decisions in the hands of NATO bureaucrats who will decide who will develop what not on the basis of NATO mission-need but on the basis of "everyone having a slice of the Defense pie."¹¹⁶

Their solution is:

. . . Instead of coming at the problem "from the back (hardware) end, go at it from the front end by getting common requirements and setting interoperability standards." Though tougher and more time-consuming than just parcelling out contracts, evidence exists that it will work.¹¹⁷

Buttressing their argument, they cite arguments such as that of an Air Force Colonel who worked on the NATO standardization problem for four years:

. . . We need standardization in logistics support so our fuel tanks fit their gas pumps; we need standardization so their ammunition fits our guns; and we need command/control/communications interoperability so we can talk to one another. All the rest you hear about is politico-economic hogwash.¹¹⁸

And in an article written for corporate headquarters, Northrop Corporation, strong support for interoperability emerges:

There are many alternatives to the pursuit of standardization as a goal in the procurement of military equipment. In fact, there is reason to believe that, far from being a "half-way house" as it was called by Secretary of Defense Rumsfeld, interoperability may offer the best solution to many military equipment procurement aspects of NATO planning. It was recently reported that a similar conclusion resulted from a study conducted for the Office of the Assistant Secretary of Defense for International Security Affairs (ISA). Interoperability offers several major advantages:

1. It permits military equipment procurement to be tailored to the budget and requirements of individual nations or sub-groups within the Alliance.
2. It permits continuing competitive procurement of evolving weapon systems to reduce cost in the long run.
3. It offers an increased flexibility in the procurement process, permitting individual nations to fill their defensive needs on their own schedules and to their own requirements.¹¹⁹

Citing one example, Northrop looks at the costs and benefits of achieving interoperability within tactical air forces:

Even if all tactical aircraft in NATO were the same, differences in support, operating procedures, tactics and language among the NATO member countries would probably limit the extent to which an aircraft and pilot from one country would be expected to operate integrally in a squadron of another country. If an aircraft from one NATO country were forced in wartime to land at another NATO country's operating base, the highest priority would be to provide flight line service to permit that aircraft to rejoin its own forces. Presently, while there is a 95% probability that a U.S. aircraft can receive flight line service at any U.S. base to permit it to return to its home base, this is not true of foreign aircraft. For most foreign aircraft with current procedures and support capabilities, the probability that flight line service could be provided is less than 60%. This number could of course be increased by standardizing on a single airplane, although variations in such things as POL are usually possible with the same aircraft and could result in incompatible support even with standard equipment. On the other hand, an examination was made of the critical support items necessary to permit turn-around of any aircraft. The requirements are generally for relatively simple items and software (procedures, technical manuals, etc.). This examination indicated that an investment of approximately one million dollars per base should increase the probability of turnaround to 75-80%. As opposed to the cost of replacing all non-standard aircraft with a standard aircraft, interoperability can be achieved for less than the cost of one-fifth of an aircraft per base.¹²⁰

Finally, the Northrop people turn to an earlier argument pointing out that ". . . [while] standardization once achieved might very well permit increased military effectiveness at decreased cost, the process of achieving standardization in the face of real world constraints risks destroying the bonds which hold NATO together."¹²¹

Within Europe, opposition to standardization and a preference for interoperability focuses in France, for largely self-centered reasons; it is perceived as a means of avoiding the need for broader

cooperation and integration. The French opposed creation of an ad hoc group on standardization, requesting instead the substitution of "interoperability" for "standardization" and asking that a six-month limit be placed on activities of the group.¹²² As Heyhoe

notes:

. . . for France to agree only to a study of 'interoperability' not only made military sense for her (since, militarily, interoperability is the most important feature of standardization and an aim which might more easily be achieved), but also avoided any obligation to agree to the tactical concepts which full-blown standardization would involve, and the inevitability--in the French view--of these concepts being imposed on Europe by the United States. The economic advantages of standardization, France might well have reasoned, would accrue to her from participation in European armaments co-operation.¹²³

The official French position, as argued by Delpech, appears to be a strong call for interoperability and rejection of the concept of standardization as called for by Callaghan.¹²⁴ As Delpech notes, "We believe, simply, that the total standardization of military material within NATO is neither practicable nor desirable."¹²⁵

A former Commander-in-Chief, United States Army in Europe and Commander of NATO's Central Army Group likewise argues against standardization and for interoperability:

. . . To speak against standardization might seem like coming out against motherhood. Yet experience raises questions about the viability of standardization, and most of the influential advocates of this approach appear unaware of them. They tend to believe without question that total standardization is the long-range goal while interoperability (in increasing degree) is the pathway to it. The thrust of the present discussion, however, is that a much more limited and practical approach--emphasizing war fighting rather than peacetime economics--

is more appropriate to NATO. Given such an approach, large dividends accrue from a capability to "cross-service" essential consumables between allied armed forces in a crisis. Beyond that, realism indicates that there is little to be gained and much to be lost from standardization.¹²⁶

General Polk continues in his article to demonstrate a host of factors which make standardization difficult and draws on the experience of 30 years to conclude that it would be better not to attempt it. His conclusion, based on observation, experience and history, is that our efforts would much better be spent attempting to achieve the gains available via limited attempts at interoperability.¹²⁷

The most eloquent and convincing voice arguing for interoperability over standardization is again that of Arthur Smithies. Basing his conclusions on his earlier arguments that standardization (a) eliminates the advantages of diversity, (b) ignores the possibility that maximum economic efficiency and maximum military effectiveness may not be simultaneously attainable, (c) will likely lead to fewer weapons of lower quality, and (d) that even if standardization was feasible, it would take 10 to 20 years to accomplish, during which period ". . . the external threat will persist and may not be quiescent,"¹²⁸ Smithies concludes that interoperability ought to be the preferred goal. Further, and most importantly, he argues:

. . . such measures [to make forces interoperable, compatible, and flexible] need not be thought of merely as interim devices that await the golden dawn of standardization. They may be substitutes for it in some cases. Again, the question

of trade-off arises. Increased interoperability may be less militarily effective than standardization, but it may also be very much cheaper.¹²⁹

Smithies notes the advances which the civilian aircraft and automobile industries have made in interoperability; he contrasts this with the failure of military air to do the same: "It is a curious irony that diverse civilian aircraft and automobiles can get service all over Europe, while military aircraft apparently cannot."¹³⁰

Smithies notes the major advantage of interoperability:

Interoperability is a contribution to the common defense in which all members of the Alliance are presumably interested and its achievement does not impose any economic loss on anyone. . . . The sharp contrast, standardization of weapons systems is supposed to eliminate inefficient producers, so that some countries may suffer economically, although they benefit militarily. Consequently rationalization in the logistics area may be much easier to achieve than widespread standardization of systems.¹³¹

Among Smithies' suggestions to DOD in the third of a series of memoranda to the Secretary of Defense on standardization were the following:

Standardization Criteria. The standardization agencies of NATO should be far more active than they have in the past in prescribing components of equipment that should be standardized. Such standards should not be such as to inhibit national ingenuity and technological change, but they should avoid the heedless diversity that has created so many problems in NATO. Conformity to such standards should be a condition for NATO certification of a system. . . .

Efforts at Standardization should be addressed particularly to small and relatively manageable items. Gardiner Tucker considers the "efficient specialization development and production of tactical missiles" as a promising area.

With respect to the large aerospace items, standardization efforts should be addressed mainly to components. And such efforts should be made early in the development process.

It must be recognized that whatever is done in the way of standardization, considerable diversity of equipment in NATO will remain. This will result from inevitable uncertainties concerning threat and strategy from competition for third-world sales and from old equipment operating alongside new. Consequently the need to achieve interoperability will remain.¹³²

As his earlier memoranda indicated, Smithies came to the conclusion that the focus of DOD ought to be on interoperability. In large part, he was deferring to the political problems which had to be faced in standardization and recognized that it would be far easier and less costly to steer new systems in the direction of interoperability rather than to try to standardize them. The political problems of standardization would mean that many projects would result in failure--to avoid this, among other reasons, he argued for interoperability.

Miscellaneous Problems with Standardization

A number of other questions relating to the need/desirability for standardization do not fall into any ready category. All are good comments on standardization policy and are noted below.

When standardization is not standardization. In some cases, procurement of a standardized weapon system will not be standardizing; that is, it may lead to increased destandardization. This is possible in several senses; the following examples illustrate this problem.

NATO has been trying to standardize on a tank gun for several years. Although not all members have accepted it, the 120-mm gun

appears to be the gun of the future. Yet, while both Germany and the United Kingdom have 120-mm guns, they have different types. The United Kingdom's gun has rifled-bore, while the German gun has a smooth-bore. While both are 120-mm the ammunition is not compatible; hence, a standardized gun size has resulted, through differing national requirements, in non-interoperable tank guns.¹³³

In yet another slightly different example, while the United States and Germany plan now to have a standardized gun (120-mm smooth-bore) on their new tanks (the Leopard-II and the XM-1), the introduction of the 120-mm gun into the United States' inventory will make the new United States tanks non-standard with old United States tanks--the current United States M60 tank can carry only the 105-mm gun, which is, incidentally, the same gun the XM-1 was supposed to have (see the case study below).¹³⁴ Further, the first 1300 XM-1's will have the 105-mm gun (at least initially) because adopting the 120-mm gun requires extensive modification of the XM-1 turret. Whether these first 1300 will later be modified or not is an open question. Thus, the XM-1's could be destandard with each other.

Finally, the F-16 aircraft adopted by four European NATO members, often touted as a major advance towards standardization, has not really improved standardization at all--in fact, it may be a step backward. One thousand F-104s, which the F-16 replaced, were produced under license by the Federal Republic of Germany, Belgium, the Netherlands, and Italy. Only 348 F-16s will be coproduced by four

small countries - Belgium, Norway, the Netherlands, and Luxemburg. France will stay with the Mirage (a competitor to the F-16),¹³⁵ while Germany and the United Kingdom are committed to the Tornado (MRCA).¹³⁶ Thus, while previously the United States and Germany were both using a basic United States designed aircraft (F-104), now each will be using different aircraft. From this perspective, the F-16 deal was hardly a step in the direction of greater standardization.

These examples illustrate that many factors other than military efficiency are behind the push for standardization. It is clear that standardization is not as simple as two or more nations agreeing, in a vacuum, to purchase the same system. Realization of this simple factor illustrates the difficulties often overlooked by those who argue that standardization is possible, an issue to be discussed in the next section.

Is Europe technologically inferior to the United States?

Although often accepted as an irrefutable fact, Jean-Laurens Delpech (although admittedly not an unbiased source) argues in his article for Defense Nationale that ". . . Europe does not feel as technologically inferior to the United States as the latter proclaims."¹³⁷ He argues, if Europe were thusly inferior, why is it that the United States fears competition from Europe in the world's markets. Delpech's argument ought to receive some consideration in that it does challenge a major assumption behind arguments for greater European integration.

While there are areas in which the United States does have a clear technological advantage, the United States may be overstating the case. Delpech notes that the problem is rather one of coordination:

There is no doubt in the minds of experts that Europe possesses intellectual and technological resources comparable to those of its American allies. The exploitation of these endowments requires, however, a great effort because it must be brought about by coordinating several national problems. Europe lacks a single decision-making center like those that exist in Washington and Moscow.

Is the Warsaw Pact an example of standardization?

Another fact almost universally agreed is that the Warsaw Pact does not face any problems with standardization. General Haig and others have taken issue with this. As Haig notes:

You know, some of the critics who are well-meaning people, say that the Warsaw Pact has no standardization problem. That is nonsense. They have three, four, and sometimes five generations of equipment in their force structure with different standards, different training techniques and different tactics. So they are plagued with non-standardization. It is not known of any coalition in the history of modern warfare that has enjoyed the benefits of pure standardization. 139

Another Army officer notes the same argument:

Standardization among Warsaw Pact armies is not complete, since improvement of existing equipment means that different versions of the same basic item may be in service at the same time. There is, however, a high degree of horizontal standardization, which NATO lacks. For example, trucks of a particular kind are found in all armies. In military terms, this gives Communist generals great freedom to organize their forces and simplifies the task of keeping them supplied. In economic terms, Warsaw Pact national governments avoid costly duplication in their defense research and development efforts. Thus, in theory at least, costs are kept down by long production runs needed to meet the needs of all the Warsaw Pact forces. 140

Additional arguments. In an article strongly critical of standardization policy, Eliot Cohen notes a series of other reasons why standardization ought not to be pursued. Some of the more important follow:

1. "Reliance on foreign weapons manufacture poses unnecessary security risks for the United States."¹⁴¹ Cohen cites the problems with acquiring spare parts for the British Harrier as a case in point.

2. The complex costly NATO logistics system is not solely the result of a lack of standardization. It reflects differences in strategy. Warsaw Pact divisions are self-contained units, designed to function until exhausted and then be replaced. NATO, on the other hand, plans for continued resupply of units which will remain in action for several months. Thus, as Cohen points out, "NATO's logistics will probably always be more costly than those of the Warsaw Pact."¹⁴²

3. "Adoption of foreign weapons entails at least partial acceptance of foreign tactics, which are in turn shaped by a strategic point of view."¹⁴³ As Cohen correctly points out, our strategic point of view differs in many areas from those of the European NATO members.

4. Diversification worked well in World War II and there is no reason to suspect any future European war would be significantly different. National armies are likely to operate on independent

lines of attack throughout any war. In any case, a European war would involve primarily the United States and Germany with some involvement of the British and French. Forcing standardization among 13 nations (most of whom would not be involved equally and concurrently) is an unnecessary and counterproductive effort.¹⁴⁴

5. The logistical benefits of standardization are gained only in a prolonged war. Since this is unlikely in Europe, again, forcing of standardization is counterproductive.¹⁴⁵

6. Diversified replacement schedules (which is the normal state of affairs if research and development and procurement are unsynchronized) guarantees that modern technology will always be entering the inventory.¹⁴⁶

7. Damage due to political problems caused by standardization such as how to handle sales of weapons to third countries (the United States' sale of F-16s to Israel is an excellent example) will outweigh the benefits gained via standardization.¹⁴⁷

8. The United States has broader security interests beyond NATO which make different demands on technological and political arrangements.¹⁴⁸

9. "Coproduction also implies the transfer of technology that the United States may wish to keep secret for either security or commercial reasons."¹⁴⁹

10. Third-country sales may take on an added political dimension:

There is a sound reason for keeping a healthy, if somewhat inferior, European defense industry producing locally designed goods. For example, the United States clearly wishes to wean the Egyptians away from Soviet arms, but cannot (or will not) provide them with large numbers of sophisticated aircraft. It is desirable, in that case, that they buy Jaguars and Mirages, which will have a lesser impact on Israeli air superiority.¹⁵⁰

11. Finally Cohen argues that:

The United States must also protect its own interests by cultivating a healthy, if redundant, arms industry. The Arab-Israeli war of 1973 made tremendous demands on the American arsenal. Some military officers protested vigorously against the shipment to the Israelis of tanks deployed with regular U.S. army units. Their arguments would have carried more weight if the United States had been unable to increase its arms production fairly quickly. (The United States now makes nearly 100 tanks a month, treble the figure for 1973.) Coproduction, however, can only lead to smaller U.S. production lines. Standardization efforts could, therefore, cause the United States to lose its ability to resupply itself or its non-NATO allies rapidly.¹⁵¹

General James Polk, former Commander of the NATO Central Army Group reinforces Cohen's arguments in pointing out one of the realities of "resupply." He notes that while in theory vehicular casualties are picked up on the battlefield and returned to depots for repair or salvage, ". . . In practice [however] many combat vehicles not too seriously damaged are repaired right in the unit, either by parts furnished by the direct-support maintenance company or, more likely, by cannibalization."¹⁵²

The Israelis demonstrated this fact well. As Polk points out, this example illustrates an important point about why we are having so many practical problems with standardization:

A major reason why the issue is so complicated is that most of the proponents of standardization do not understand either mechanized or coalition warfare.¹⁵³

If they did, Polk argues, they would see the futility of their efforts towards standardization. As his example illustrates, having standardized systems gains one very little when faced with the realities of how things operate in actual combat.

This concludes the discussion of the desirability of standardization. Although the arguments reviewed here largely suggest that standardization is not a desirable policy to pursue, many, if not all, are subject to controversial and often subjective interpretations. No absolute judgment is possible. In the following section, somewhat different arguments are reviewed--those addressing whether standardization is possible--and stronger conclusions emerge from that review.

Feasibility of Standardization

This discussion of the feasibility of standardizing focuses around seven major points: (a) the experience of history (a trail of failures); (b) the domestic and international political roadblocks to cooperation in weapons procurement; (c) the institutional biases in the United States Congress and the military services (and also in industry); (d) the difficulty of achieving alliance-wide agreement on tactical concepts and equipment requirements; (e) the difficulty of achieving the long-term planning necessary to coordinate equipment replacement schedules; (f) the problem of technology transfer

(both security and technical difficulties due to differing techniques; and (g) the problems encountered with third-country export sales.

The Experience of History

As pointed out in Chapter II, destandardization was not initially a major problem in NATO. However, an early act of omission in the original terms of reference for NATO was later to play a major part, not in causing destandardization but in encouraging and facilitating it--that was the delegation of logistics within NATO as a national responsibility. As brought out in testimony before Congress by General William Knowlton, United States Representative to the NATO Military Committee, once the members of NATO accepted logistics as a purely national responsibility, a situation was created which would hamper later attempts at standardization. The result has been a series of failures since the early 1950s to develop greater cooperation in weapons procurement. Based on these failures, noted in Chapter IV, one must be highly pessimistic in questioning if today's attempts will succeed where others have failed. As one critic has noted in responding to this question:

If history is a guide, the answer is no. NATO's only attempt at formal collaboration (NATO Basic Military Requirements NBMR) failed. NATO has functioned primarily as a forum in which plans are discussed. Although numerous bilateral and multilateral projects developed outside of the NATO framework (usually involving the three European industrial giants--France, Germany, and Britain--but, importantly never all

three), none have served as the basis for continued industrial integration because multi-nation arrangements terminated following the completion of production.¹⁵⁴

Two major studies completed in the 1960s are useful in illustrating the prospects for the future. Both trace previous attempts and find continued and inevitable failure. One, a study by Robert James, proposed new ways of attacking the problem (including a proposal for "families" of equipment).¹⁵⁵ However, a reading of James' study leaves one highly discouraged--the causes of previous failures noted by James (lack of a NATO armaments and equipment procurement organization with common funding and a certain amount of autonomy resulting in a series of STANAGs and NBMRs which no one paid any attention to)¹⁵⁶ still remain and are not addressed by today's "new" proposals. What is emerging are new organizations and processes, not unlike those attempted before, which operate in an environment still lacking the necessary prerequisites for cooperation.

The other study by General E. Vandevanter (USAF, retired) produced for Rand in 1964 cautions against trying to formalize the process. Vandevanter's conclusion is based on ". . . the poor performance and inherent deficiencies of the institutional method."¹⁵⁷ Because of the lack of and the impossibility of creating a supra-national authority, Vandevanter argues against trying to develop a formal organization dedicated to standardization:

One can only regret that the proponent of change does not take the time to explain, in view of the dismal past experience, how NATO officials should go about constructing his Utopia.¹⁵⁸

Two articles, which focus on the weapons procurement process within the United States alone, note the unnecessary duplication in domestic procurement and are enlightening in illustrating how difficult it is to rationalize the weapons procurement process within a single country.¹⁵⁹ Both conclude that such rationalization is nearly impossible and ask why proponents of standardization expect what is virtually impossible to achieve within one country to be a possibility when dealing with 15 countries. Again, the conclusion of critics, with justification, is that it cannot be done.

Although a number of illustrative examples might be drawn on, one offered by General Polk is useful. He discusses the problem of standardizing rifle cartridges:

. . . The American adoption of the M16 rifle has in fact caused a host of problems, not the least of which is the double standard for rifle cartridges in Central Europe. The other allied armies involved are now wrestling with the problem, but are not inclined either to buy or to license our M16 rifle. Instead, there is now in progress an international competition to see which nation can build the most effective and reliable 5.56 mm rifle and machine gun, with a formal shoot-off to be held at Hammelburg, Germany, in the coming months. Presumably, this shoot-off will also settle the question of which rifle and possibly which machine gun cartridge to adopt. The Germans, however, have announced that they will stay with the 7.62 mm cartridge for all machine guns in their inventory, primarily because of its longer range and more lethality. And to further compound the small arms cartridge standardization attempt, the U.S. Army is now developing a so-called squad automatic weapon (a light machine gun for the infantry squad) chambering a 5.56 mm round. However, in order to attain a

longer-range effectiveness than the companion M16 rifle, a heavier and longer bullet has been adopted which cannot be fired from the infantry rifle. If adopted, the rifle squad will then become nonstandard and employ two different kinds of 5.56 mm rounds within the basic combat unit of the army.¹⁶⁰

General Polk's conclusion is likewise that standardization is unwise and probably impossible. It is, he argues, a waste of time:

The whole effort at standardization or interoperability or, better yet, cross-servicing, should in fact be concentrated almost exclusively in the area of petroleum products and ammunition. The former is not too difficult at this point except, as noted, in the case of aircraft fuel. Not only should we have standard calibers (and similar rounds and bombs), but also we should have similar racks, fuses, loading machines, propellant charges, firing tables, magazines, link belts, and the like. All of these should be NATO standard and totally interchangeable. We should be able to cross-serve with essential expendables our combat aircraft, tanks, cannon, and guns with professional confidence and speed anywhere across the Central European front. We should even try to make our missiles interchangeable on common launch rails or tubes. On this basis, it would be acceptable to let each nation build and service its own weapon systems around a common fuel and ammunition program. Each nation would be free to build a fighter, tank, or rifle that suits its own national requirements. Then, when and if one nation "builds a better mousetrap," the other armies and air forces should buy it directly from the sole source producer. We do not need an international supply system or dual production under license or common spare parts or identical engines or the rest. Quite simply, we only need to help each other in battle. We need to do this quickly and confidently, by assisting with the essential expendables of ammunition, fuel, food, and medical supplies and by giving other help. The rest is window dressing. It is not worth the time, trouble, and money required.¹⁶¹

Political Roadblocks

The political blocks to standardization are focused at the national level; the absence of the international or supranational

organization necessary for cooperative development and procurement are a response to these national realities.

The domestic problem has been described earlier as a focus on low versus high issues (or domestic versus international issues). That is, weapons procurement has been defined as a low issue by the member governments. In the case of the United States, this means that weapons procurement decisions are treated as disaggregated decisions both because of their inherent distributive nature and because of Congressional (primarily House) preference to treat them as such (it lessens conflict and provides clear benefits). Because of the distributive/disaggregated nature of the policy, Congress prefers to treat each weapons decision on a case-by-case basis rather than as part of a broader, comprehensive package which standardization proponents favor for reasons made clear earlier and within which particularized benefits would be less visible. Congress will not, as a result, acquiesce in formation of a NATO procurement agency, which would:

1. Require that weapons procurement be treated in the broader fashion noted above, but would also and perhaps more importantly,

2. require the national authorities to surrender all or most of their decision-making authority in weapons procurements. Hence, the nature of the policy prevents national governments from surrendering to higher authority the decision-making power without which standardization will be impossible to achieve.

Domestic policy benefits. The key to this crucial argument is the domestic environment--and what it is that weapon procurements provide--which standardization is perceived as threatening. In a word, it is the health of the domestic economy. As Callaghan notes:

European [and, I would add, United States] defense industries are now expected: first, to provide employment; second, to redress the balance of payments; third, to amortize research and development costs through exports; and fourth, if not inconsistent with the first three, to provide for the national defence. [*Italics mine*]¹⁶²

The General Accounting Office notes the problems of employment and technological advancement (to maintain a viable national defense industry)¹⁶³ while employment is identified as a primary concern by Eliot Cohen:

Particularly in a period of high unemployment, congressmen and senators will protest vigorously against large defense procurements that help a foreign rather than a domestic industry.¹⁶⁴

And the Senate Armed Services Committee, in its hearing on NATO Posture and Initiatives, notes the fear of losing jobs to foreign competition as the major part of the national parochialism preventing increased cooperation.¹⁶⁵ Even the F-16 contract has disturbed United States labor with representatives of labor pointing out the potential for loss of jobs due to coproduction aspects of the sale and the transfer of technology.¹⁶⁶

A clear indication of this domestic bias is the continued existence of Buy National policies among all members. As one critic described them:

Political primacy also manifests itself in the form of national procurement policies. As concluded in a GAO report (32), buy-national procurement biases are pervasive not only in the U.S., but also in France, Germany, and Britain. Each of the nations maintains a strong nationalistic desire to protect high technology industries (e.g., the U.S.--advanced ECM gear; U.K., FRG and France--telecommunications, electric power, and transportation equipment), in maintaining and expanding industries important to national security, and in otherwise protecting the domestic market. Subtle administrative guidance and practices in Europe substitute for U.S. laws and regulations in effectively precluding most foreign competition. The lowering these barriers--on both sides of the Atlantic--will depend upon the willingness of the Alliance members to work toward genuine political integration.¹⁶⁷

This common "problem" among the NATO members has in the past and will in the future prevent the surrender of sovereignty that is necessary to develop the NATO procurement authority essential to standardization. Steven Canby, noting the conflict within the United States alone over awarding of weapons contracts,¹⁶⁸ questions the possibility of cooperation on a broader scale: "One cannot expect more from an alliance of sovereign states than is politically possible within a single nation-state."¹⁶⁹

Supranational authority. That a "supranational authority invested with the power to compel a nation to take a specific action against its will"¹⁷⁰ is essential if broader NATO cooperation is to develop is widely recognized. One former Assistant Secretary General of NATO (Tyler Port) expressed the problem facing NATO as

. . . how to bridge the gap that exists between the vast amount of organized information developed at the information exchange level [the CNAD, for example] and the decision-making process at the national level.¹⁷¹

Both Eliot Cohen and a group of researchers at the Industrial College of the Air Force agree that the gap will only be closed by a supranational authority:

. . . a genuinely multinational arms-procurement industry would require NATO countries to abdicate considerable sovereignty over one of their most important responsibilities: national defense.¹⁷²

And:

A major obstacle continuously inhibiting NATO's cooperative efforts has been the sheer number of countries involved and the absence of a central mechanism with sufficient political power to reach and enforce collective decisions. The wisdom of standardization has been doctrine in NATO capitals for years. Many NATO agencies and working groups have explored the ground frequently and thoroughly, but their decisions have often been overridden by the national interests of individual member states. The status quo has no provision for a NATO agency with the necessary powers to determine a common solution to a common threat.¹⁷³

The chances of obtaining this objective, as Roger Facer argued in 1975, are not encouraging. He believes that the NATO members will do only what they have to and only that which provides them with clearly visible gains:

The same national pride which inhibits a policy of buying the more complex items from the United States encourages the view that the best course would be to press ahead with national projects designed to meet national needs, resorting to collaboration only as a method whereby the national return, through exports, can be maximized. The fact that Britain abandoned this policy in the 1960s because of the strain on her resources does not invalidate it for use by countries whose resources have grown faster than Britain's; and in any case the strain upon Britain was exacerbated by her role outside Europe, which placed heavier demands on her procurement programmes than would the purely European role which a country like Germany envisages.¹⁷⁴

The General Accounting Office agrees:

For standardization to succeed requires vesting an organization in NATO with the authority to plan and direct the transition to greater commonality. It is doubtful that all members of the Alliance are ready to take this step.¹⁷⁵

That the United States is playing the same game is pointed out in the following:

In his "Year of Europe" speech, then-Secretary of State Henry Kissinger called for a new Atlantic Charter which would combine security and economic aspects of Atlantic relations into a single framework. Specifically, he said that if the Europeans wished to retain the American security guarantees, they would have to make concessions to American economic and political interests. Statements by President Richard Nixon and actions by Congress that tied the U.S. military presence in Europe to the offset agreements seemed to reaffirm this stand.

This created a contradiction in stated American policy. On the one hand, the United States was pushing defense procurement integration while on the other it was creating obstacles to intra-European production cooperation by threatening to reduce the U.S. defense commitment if that cooperation hurt the U.S. economic position. Many Europeans felt that what the United States really wanted was an alliance armed entirely with American weapons.¹⁷⁶

That this apparent contradiction was merely a reflection of the realities of submerging broader international and supranational goals (high policy) to the imperatives of domestic necessities (low politics) is clear.

On the other hand, within Europe the difficulties of even agreeing on a forum illustrates again the hurdles to cooperation. And even though Europeans did agree to create the Independent European Program Group, the role and future of that group is highly uncertain. Further, as one critic points out, with respect to the role of France in European cooperation, there is a basic dilemma:

. . . There is a basic European dilemma that goes like this: Without France, there can be no effective collaboration. With France, the price of collaboration will be acceptance of French leadership. This point is not lost on the Europeans and it is illustrated by a passage from the Subcommittee on European Defense Cooperation of the North Alliance in March 1976, "In order to deal with the United States from an effective industrial base and on a genuinely European basis, the inclusion of France is imperative. However, the conditions that France requires in order to establish European cooperation prohibit the sort of transatlantic relationship the other members foresee."¹⁷⁷

Another critic summarizes his evaluation of French participation in the EPG:

In summary, France persistently asserts its sovereignty and lapses occasionally into autarchy. Successful bilateral collaboration with NATO members, primarily Britain and Germany, has not altered the direction or velocity of French defense designs, equipment requirements, or its relationship with NATO. The decided lean to the left on the French political scene will worsen, not improve, the prospects for genuine French collaboration despite Giscard's determination "to break U.S. domination in high technology industries that he considers important for national economic independence" through direct purchase.¹⁷⁸

To believe that the current efforts at supranational cooperation will be any more successful than those in the past requires a high element of blind faith. Regardless of whether one sees standardization as desirable or undesirable (a largely subjective decision in any event, I believe), the imperatives of low (domestic) policies within all of the NATO countries, the necessity for a supranational authority to implement the policy and the inevitable contradictions between the two make any significant progress towards standardization impossible. The case studies which follow this chapter illustrate that low politics are alive and well.

This, along with the lack of evidence suggesting that any change has occurred in the willingness of nation states to surrender their sovereignty over weapons procurement decisions to a supranational authority (likewise supported by the case-by-case project nature of all current programs with the associated requirement for full offset of costs within each project) and the failure of proponents of standardization to show that standardization can be achieved by anything less than a supranational authority¹⁷⁹ leaves one with the conclusion that standardization will be impossible to achieve.

In a final illustration which shows that Congress and American industry are aware of the challenges and which supports my argument that a relationship exists between industry and Congress which will continue to result in prioritization of low over high policy, the words of John Ford, Staff Director of the House Armed Services Committee, before a gathering of industrialists, are illuminating:

If there is one message above all that I would ask you to get back to your corporate headquarters, it would be this--to get involved. To start putting more of the company brains and company resources into studying this issue and letting us know early enough in the game what the problems and the reservations of the American industry might be.¹⁸⁰

It is this overriding concern with protectionism of American interests (the same can be said for European interests) which, in my mind, will preclude serious movement towards greater standardization.¹⁸¹

Institutional biases. In a deeper look at the foundations of the domestic opposition, two sources of institutional resistance

stand out (in addition to the expected resistance from industry): the military services and the Congress. As one critic describes the problem:

Government policy pronouncements often belie the underlying activities and goals of the organizations responsible for implementing stated policies; things are not always as they seem. Well-intentioned statements of standardization policy may serve as proof of general commitment. But the translation to positive action must run a gamut of institutional biases situated strongly in opposition to the two-way street and reinforced by the national pride and prestige often at stake in major arms deals.¹⁸²

Lidy sees this bias, in Congress and Parliaments, emerging in their stated commitment and responsibility to use public funds efficiently.¹⁸³ Within the services, it is exhibited by emphasizing questions of "morale, elan, and organizational health," along with service traditions:¹⁸⁴

Service traditions, which manifest themselves and generate institutional biases on a national level, represent another form of this problem. Despite numerous U.S. Air Force/Navy collaborative efforts, the rivalry that began with battleships and bombers continues today with nuclear power, missiles, planes, and defense dollars in general. Service resistances--on both international and national levels--will not be insignificant, particularly when prestige weapons are at stake.¹⁸⁵

Another analyst pinpointed the crux of the problem, one which the United States government is trying to correct:

In the echelons below the Secretary of Defense, we would have to reach down to the seventh management level before we would find the first official with full-time responsibility for implementing the statutory standardization policy of the United States. And that seventh-level official has no management control, no policy control, and no money control. Mr. Damm had commented, "It is the same in every defense ministry in the Alliance."¹⁸⁶

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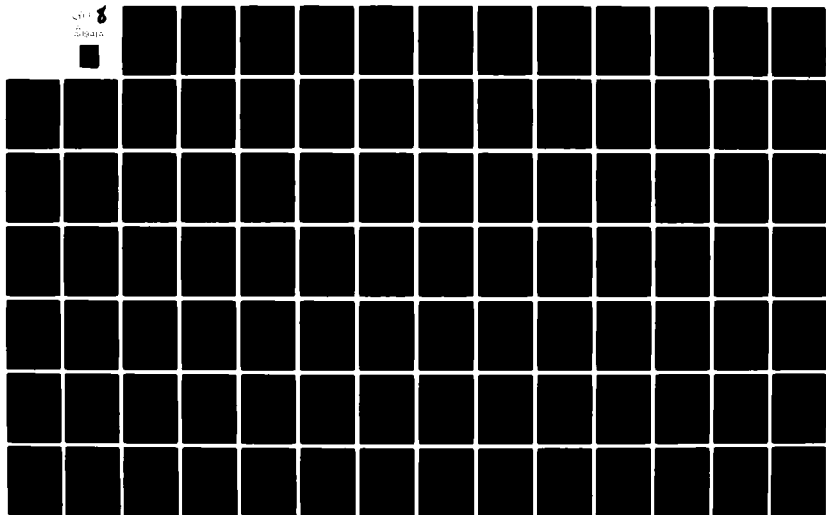
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Senators Nunn and Bartlett, in their report "NATO and the New Soviet Threat," address this shortcoming as follows:

Serious consideration should be given to establishing within each ministry of defense powerful bureaucratic constituencies committed solely to achieving standardization and interoperability. For the Department of Defense, this might entail creation of an office of standardization in both the Office of the Secretary of Defense and with each service. The institutionalization of the impetus toward standardization would provide a major counterweight to contrary parochial political and economic interests.¹⁸⁷

While, as highlighted earlier, DOD is attempting to create an organization responsible for standardization, one vocal critic argues that even creation of the necessary bureaucracy may still leave the institution a long way from being able to address the problem:

. . . The establishment of "powerful bureaucratic constituencies committed solely to achieving standardization and interoperability," while appealing on the surface, may serve only to foster more bureaucratic infighting and red tape which will prove counterproductive in the long term.¹⁸⁸

The overall mood of Congress was succinctly summed up by a Library of Congress analyst who noted that the attitude in Congress is pro-standardization, but only if it is cost-effective. As he noted, therein lies the dilemma.¹⁸⁹ The requirement for cost-effectiveness has been widely argued by Congress, even appearing as an amendment to the Culver/Nunn amendment in the FY 1977 Authorization Bill. The amendment was added through the insistence of the House conferees and required:

. . . the Secretary of Defense to take into consideration in defense procurement procedures the cost, function, quality, and availability of the equipment to be procured while carrying out the policy of standardization.¹⁹⁰

John Ford, the Director of the House Armed Services Committee staff, notes six standards he "feels" Congress would use in judging proposals for standardization and interoperability:

1. . . . [that] they enhance military effectiveness;
2. that there be no loss of systems performance;
3. that there be no net loss of jobs for U.S. industry over the long term;
4. that long-term increases in the cost of systems be related to increased overall capability;
5. that it does not destroy the virtues of competition;
6. that it avoids imprudent technology transfer.¹⁹¹

While these criteria are, in general, valid, their vagueness means that (if in fact they are applied rigorously) they could be used to justify opposition to very nearly any system we might wish to buy from Europe. Analysts have assumed that this will be the case. General Research Corporation, in their study for DOD, notes that ". . . at least the Services and Congress will generally require that European candidate systems be shown to be clearly superior to an existing (or even foreseeable) American alternative. . . ." ¹⁹²

The study goes on to note that:

. . . this is [an] exceedingly difficult [requirement to meet] when the relative U.S. and European expenditures on research and development are taken into account along with national

pride and the relations of the Services to their suppliers. European systems will have to compete on a cost basis as well as on a performance basis.¹⁹³

Even Thomas Callaghan recognizes this reality:

. . . large-scale military trade with Europe must provide American forces with weapons at least equal in quality to, and not costing more than, weapons which could be developed and produced in the United States.¹⁹⁴

This ties in with arguments in the previous section on cost and quality, where it was argued that the products of cooperative programs would inevitably be more expensive or of lower quality or, most likely, both. If indeed that is the case, all such procurements will face significant opposition from Congress.¹⁹⁵

Thus it is that Charles Duncan, Deputy Secretary of Defense, in testimony before the House Government Operations Committee's Subcommittee on Legislation and National Security notes that Congress has supported standardization in general, but that on specific terms, it has faltered:

Before leaving the subject of the DOD standardization directive and the implementing actions taken, I want to emphasize the importance of strong congressional support in order to achieve our NATO objectives. The Congress has given strong support to the overall objective of greater standardization and interoperability of U.S. equipment with those of our allies. However, we have faced considerable difficulty gaining congressional approval for certain specific actions designed to strengthen alliance war-fighting capability through adoption of common equipment.¹⁹⁶

He notes failures to fund alliance foreign weapons evaluation, the 120-mm tank gun cooperative development and an anti-ship missile defense system as examples of the failure of Congress to support

specific actions.¹⁹⁷

The General Research Corporation study makes a similar observation, noting that ". . . there is some question concerning the depth and durability of Congressional support for standardization in general or for licensed production in particular."¹⁹⁸

Turning to the military, parochial clashes between the United States Services carry over to the standardization problem. The Air Force is the strongest proponent of standardization, confident in the belief that there is little it will have to buy from Europe. In one of the early exercises at identifying potential systems which the United States might purchase from Europe, the best the Air Force could come up with were some fire-resistant flight suits from the British.¹⁹⁹ The Army, on the other hand, realizes that since much of its equipment is less sophisticated than that which the Air Force uses (one must, however, be careful not to call it unsophisticated - I was quickly corrected for that error by an Army officer on the Army staff), it will likely be the service that ends up using equipment purchased abroad.

The concerns of the Army are supported by comments of Robert Komer before he became the standardization czar in the Pentagon. Then a Rand analyst, he made the following comments at the State-Defense Colloquium on Standardization in May of 1975:

There are lots of areas in which many think buying European would serve our own interests as well as NATO's. We are so far ahead in most aspects of aerospace technology that we're likely to continue dominant in this field. The

same holds true in many aspects of naval technology. In both cases we are probably the largest single buyer of such equipment. In the ground force field, we are (except in SAMs and SSMs) hardly the league leader. Other countries produce comparable if not better equipment, and the rest of NATO collectively buys more of it than we. Thus the most fruitful field in which to buy European might be in that of ground force equipment. This incidentally would serve our own Army's interests since as the most manpower-extensive service it has the least to spend on R&D procurement. Ambassador Komer said that if he were in the aerospace industry, he would begin lobbying for U.S. purchase of the LEOPARD II tank or German vehicles in order to protect our European market for U.S. aerospace technology.²⁰⁰

Indeed, a later Rand study on potential offsets for the sale of the AWACS to Europe listed the Leopard tank as one of the top candidates. The Army could hardly have looked favorably on the recommendation of this Air Force funded research group.²⁰¹ It is no wonder, then, that the Army has largely resisted standardization. As pointed out by Senator John Culver (D-IA) in an article in Foreign Policy:

There is already a backlash in some quarters where parochial interests are stronger than the national and allied interests in turning NATO into a cohesive, combat-ready force. The Army, for example, continues to resist carrying out even the limited agreement with Germany to standardize main battle tank components.²⁰²

Overall resistance is manifested throughout the services as pointed out by a House Appropriation Committee study of standardization policy:

The fact that the United States has been unable to establish a focal point with sufficient authority to see that the high-level policy is carried out expeditiously down through the various bureaucratic levels has made it possible for what one U.S. contractor described as a military middle-management attitude to exist. This attitude is evidenced by a very conservative position on the

release of technical data, a dislike for any weapon system not invented in the United States, and the tendency on the part of middle management to drag their feet in implementing high-level policy. This tendency has led to a conflict between stated U.S. policy and its actual application. There are several examples, notably the competitive testing of the XM-1 versus the Leopard II tank, which demonstrate the European frustrations and the feeling among officials there that it is impossible to deal with the United States.²⁰³

The imperatives of bureaucratic life suggest that the resistance documented above is unlikely to be easily overcome.

As an illustration of how difficult it is to coherently attack the problem of implementing standardization policy, a short evaluation of Budget Circular A-109, an Office of Management and Budget (OMB) circular which prescribes policies to guide federal agencies in managing their acquisition of major systems, is enlightening. The A-109 issue illustrates how difficult it is to coordinate policies within a large, complex organization. While A-109 was meant to aid in rationalizing the development and procurement of major systems within the government, many of its recommendations will have the effect of making it more difficult to procure systems from Europe and hence to rationalize NATO.

The House Appropriations Committee's report on the FY 1980 Defense Appropriations Bill notes the problems raised by A-109,²⁰⁴ one of which is that the ". . . policy emphasizes that the selection of a weapons system should be based primarily upon technical criteria."²⁰⁵ As a result, A-109 will cause difficulties in implementing the "family of weapons" concept.²⁰⁶ The General Accounting Office

(GAO), in evaluating A-109, also raises some issues which, although not directly addressed by GAO in their study, were identified by GAO analysts in private conversations as impinging on standardization policy. Among these were the problems of identifying and describing missions and of defining requirements.²⁰⁷ The Mission Element Need Statement (MENS) discussed in the previous chapter is DOD's response to A-109; a similar procedure is being implemented in NATO (the PAPS). The General Accounting Office's study notes the problem of implementing this procedure internally; in phone conversations, GAO analysts noted that these same problems, often amplified, would exist in the NATO arena.

In the House hearings on RSI, the Administrator for Federal Procurement Policy (the officer responsible for implementing A-109 - Mr. Lester Fettig) was asked to testify on the contradictions between the procedures necessary to implement NATO standardization and A-109's requirements. Mr. Fettig's testimony illustrates clearly the problems which exist. First he noted that two legislative proposals which DOD had submitted to the committee and which DOD insisted were necessary if standardization were to be implemented²⁰⁸ would, if passed by Congress, probably be inconsistent with A-109.²⁰⁹ More seriously, he was unable to assure the committee that the pursuit of standardization under the family of weapons concept would be consistent with the competition called for by A-109. As Fettig notes, if standardization were pursued on a project basis (case-by-case), with the "horse-trading" that implies (even requires), then standardization would

be inconsistent with A-109. I have argued that such a project orientation will, indeed, be the case. Fettig, however, relied on Dr. Perry's assurances that the "Family of Weapons" concept would foster competition and would not lead to "horsetrading," which, incidentally, Fettig accused Dr. Currie, Perry's predecessor of engaging in (see the Roland Study).²¹⁰ The committee challenged Fettig's optimism on several occasions, including the following exchange:

Mr. Hahn. It's really that we get your comments on the family of weapons and A-109 because the testimony we specifically took from the Secretary of Defense and support said the various countries would get together and agree on a particular weapons system type, one country would be assigned the responsibility for funding of that weapons system type, the other countries would agree not to expend funds for such development, and would eliminate duplication of efforts.

There is clearly a contradiction.

Mr. Fettig. Mr. Dietrich points out to me it may not be a very severe contradiction because it may be simply an understanding that different countries can be designated as manager of the mission need. Just as we may, in a sense, sponsor that particular competition, the FRG may be the managing government, while the multinational team, including American firms, compete.

So, although I can't say with certainty at this time, I don't want to let the record reflect that it's necessarily a big contradiction.²¹¹

Fettig was not successful at explaining away the contradictions.

In fact, his attempts to do so more clearly show what will probably actually occur. Since in most European countries only one or two major contractors operate in each weapons field,²¹² what the United States objects to as non-competitive contracting (sole-sourcing) appears almost inevitable. European countries will simply award

sole source contracts for the projects they have been assigned to manage.

Thus, A-109 poses a clear challenge to the Family of Weapons concept, putting standardization in clear opposition to procurement regulations and providing a ready source of ammunition to both those opposed to standardization in general and to those who see themselves as losers on any particular issue. The case studies which follow, especially the Belgian Machine Gun Case, illustrate that the challenges will occur and demonstrate how intense they can become. Ironically, A-109 will probably make it easier for these challenges to succeed.

In summary, the institutions within which standardization battles must be fought all contain inherent sources of resistance. Significant centers of opposition exist and will develop on an issue basis within Congress. While the Senate, with its high policy focus, has (as will be illustrated in the case studies) generally supported standardization whereas the House has opposed it, recent surveys of Senate hearings indicate that attention in the Senate is dropping off--the Senators concerned do not have the time to devote to the issues which is required if standardization concerns are to be effectively represented and considered--the case-by-case approach to standardization requires more time than the Senate can afford (see the conclusions for additional loss of support in the Senate as a result of realignments resulting from the 1980 election). As a result, opposition to a particular project in the House, if played

correctly, can be successful in killing that project. Opposition within the services will be virtually impossible to eliminate and will, likewise, always pose challenges to procurements which are perceived as challenges to the services' morale, elan or prestige. Finally, government procurement regulations, drawn up in a "business as usual" fashion provide additional ammunition to opponents and more hurdles to proponents of standardization.

Military Integration

That common doctrine must precede standardization is generally commonly accepted. Parris describes the problem this leads to:

Doctrine--and the establishment of operational requirements that lead to doctrine--must precede standardization (whatever the approach). Commonality of doctrine and tactics will facilitate the integration of the command and control functions that coordinate the operation of all equipment whether standardized or not. Improved commonality is necessary to achieve bottom-up standardization and is subsumed as having occurred by those who advocate the top-down approach. But standardization of equipment alone, then, will not lead to the benefits in military efficiency that the two-way street promises.

There are significant doctrinal differences between the U.S. and its NATO allies, as well as structural problems which are inseparable from the nature of NATO as an essentially democratic body of sovereign nations.

These factors pose serious barriers to military integration and thus inhibit the total standardization of weapons systems.²¹³

The first problem, Parris points out, is that NATO's military forces are organized along national lines which leads inevitably to development of forces based on each nation's own ". . . preferences and perceived independent needs . . . rather than . . . the needs of the joint defense."²¹⁴ As noted earlier, broader United States defense responsibilities are a second problem.²¹⁵ And Parris notes

geography as yet a third factor.²¹⁶ Parris points to the differences between German, United States and British tank tactics as representing the divergences in perspective--they will, he argues, make it ". . . implausible that NATO will ever field a common mechanized infantry combat vehicle."²¹⁷ The United States/German disagreement over what caliber gun to put on the new generation of tank 's likewise (at least in part) a result of these divergent p ectives.

Can agreement be reached on tactical concepts? Ger i Polk thinks not:

. . . Granted, the members of the alliance should get together and agree on the major requirements and uses of the system in question. But this process is not so easy. Opinions are strongly held, the product of our differing schools, studies, experiences, and prejudices. This national provincialism can be seen in the debate over the desired characteristics of the future main battle tank (MBT). The Germans want it heavily gunned and very agile. The British also like a big 120 mm gun but will give up mobility and agility for a slower tank with heavy armor, a veritable moving pillbox. We in the United States Army are somewhere between, believing that the current 105 mm gun is quite equal to the task: thus we like the smaller gun and opt for agility and survivability. Since any tank is to a considerable extent a compromise of these three features, a standardized version satisfies none of the primary proponents in that it fails to meet the precise tactical requirements as each national army sees them.²¹⁸

The same problem was faced by the European MRCA project (Tornado fighter aircraft):

The need for collaborative parties to rationalize defense perceptions and equipment requirements is best illustrated by the Tornado project. During the conceptual stage of this project (then known as the MRCA), no fewer than five different missions had to be assigned to the Tornado in order to secure British, West German and Italian participation in the project: (1) interdiction

of logistics support, (2) support of combat forces on the ground, (3) obtaining and maintaining air superiority, (4) reconnaissance, and (5) nuclear attack. Today, however, one finds growing concern in Bonn and London, at least, that the Tornado will not be as militarily effective as originally envisaged. It may prove capable of serving only the lowest common denominator of combined British, West German and Italian military requirements.²¹⁹

And further:

. . . In some cases, modifications dictated by national requirements and specifications so alter the national versions of a jointly designed and produced system that those versions might as well be considered single-country products.²²⁰

This is also true in the case of the United States' adoption of the Roland missile as is pointed out in the Roland case study.

A further complicating factor is the possibility that it really is not requirements that drive technology (and hence procurement), but rather it is technology that drives requirements. That is, if industry decides, based on its available technology, to build a system and then seeks to convince the national military authorities that a requirement exists, attempts to arrive at common requirements at the international level are irrelevant. If this is the case, standardization requires coordination, if not integration, of industry on an international level. Lacking that, national industry will drive national requirements which, unless the national industries are already sharing their technology or accidentally simultaneously develop the same system, means that national requirements will continue to differ and common procurement will be impossible.

History indicates that cooperation in developing requirements is impossible.²²¹ If so, continued attempts to achieve standardization are, for yet another reason, doomed to failure.²²² Parris summarizes the problem:

None of these differences are, by themselves, irreconcilable. But they do generate disparate priorities for military hardware requirements which in turn lead to weapons systems with substantial overlap in capability. In short, "the stronger NATO nations each have firm, historically rooted ideas on the weapons they like best and on the tactics that go with them, and each nation jealously reserves the right to solve its own defense problems."

Conceptual differences thus pose a significant obstacle in standardization. True military integration will require reconciliation of costs and benefits not on a case basis, but on a scale spanning numerous projects; it has to be preceded by political decisions which in turn reflect a "qualitatively different political commitment."

While these barriers pose problems to standardization from above and below, the impact on the former approach is greater. Implicit in the top-down program is the convergence of multinational doctrine--a condition which does not now exist; the alternative approach allows time for member nations to resolve differences and establish operational requirements on a project-by-project basis. Differences must be resolved as technologies transfer, not after the fact.²²³

Long-Term Planning

The difficulty in coordinating equipment replacement schedules is yet another roadblock to standardization. One analyst has argued that even if a major effort were now implemented with full cooperation of all concerned, it would still take 25 years to synchronize national calendars.²²⁴ The primary reason for this time lag is that, in the short run, because of the large amounts

of money invested in equipment, nations are reluctant to discard still useful systems and spend money for new ones.²²⁵ When coupled with weapon-system life cycles of an average of ten years, and the impetus to replace obsolete systems immediately (i.e., limited flexibility to wait for someone else's system to come along as yours wear out), synchronization of schedules becomes a long-term prospect.²²⁶ As Parris argues;

Thus, simultaneous introduction of standardized equipment demands a vision past the follow-on generation of weapons systems and preferably to the evolutionary completion of a family of related weapons. At the very least, the competing systems of the current generation must be ignored if co-development programs for future generations are to be realized.

A major difficulty, of course, is integrating long term plans with the uncertainties of the nearer term future. In the first place, the expected products of long range technology development efforts do not appear in current programming documents as specific inventory items or as scheduled equipment acquisitions. More important, however, as pointed out by a Norwegian member of the North Atlantic Assembly is that the inherent uncertainty of variables in so-called future research makes it difficult to plan concretely, and in fact may produce results far "off the mark."²²⁷

Although the NAPR process described in the previous chapter is a first step at resolving this problem through development of consolidated equipment schedules, merely agreeing to take this first step has taken years of prolonged discussion.²²⁸ Further, agreement to try to coordinate schedules by itself does not mean that success will be forthcoming.

Technology Problems (Technology
Transfer and Technological
Maturity

Technology problems are manifested in two ways: first, through resistance to transfer of technology from one country to another, both between governments and between industries, and second, through technical problems associated with using each other's technology (from problems of interpreting drawings to "technology gaps"). That such transfers are essential is pointed out by the General Research Corporation in a study for the Department of Defense on standardization and technology transfer:

. . . Any means of accomplishing NATO standardization and interoperability (through common and standard technical requirements, through direct purchase, through co-development, through co-production) necessarily involves the transfer of technology either directly or indirectly.²²⁹

The first problem (resistance to transfer from one country to another) is the more serious in that it is an artificial problem; that is, it is one imposed on the arena rather than one inherent to the arena. It cannot be "solved" as can the second. The transfer of technology involved in defense research and development always encounters resistance from governments because it: (a) poses risks to national security; and (b) may have harmful effects on our balance of payments, exports, employment, etc., if it results in a lowering of our comparative advantage. Industry is concerned about the competitive problem because it recognizes that the technologies involved are generally dual purpose--they have civilian as well as

military applications. While industry may be protected on the military side, the transfer of technologies for purposes of allowing industries in other countries to duplicate military technology can also be used by those industries in the civilian markets where the industries are competitors.

The House RSI Subcommittee expressed concern over protection of both national security and competitive advantage in its review of standardization. Within the United States government, conflict over the amount of protection necessary for United States technology has been keen--the Commerce Department has argued for strict controls while the State Department has pointed to the need to allow greater transfers to avoid political repercussions within the Alliance.²³⁰ The subcommittee appeared to side with the Department of Commerce and greater protection, noting:

. . . The subcommittee [identified] concerns about over-emphasis of national security considerations when economic issues are also involved. In particular, no mechanisms appear to be functioning for objective review of decisions regarding transfer of technology. Presently, the most effective mechanisms available for protection of both individual and national interests are the laws, regulations and precedents for transferring intellectual property from private owners to government authorities. It is these protections and procedures which have been used to help develop our national technological position and should be compiled with in both letter and spirit to assure that a recent prioritization of alliance trade not result in a migration of important national assets.²³¹

A lack of cooperation from the United States in the past, due both to bureaucratic and political considerations, were pointed out by the General Accounting Office as a roadblock to previous cooperative efforts:

U.S. Government policies on the flow of technology were cited as being overly restrictive and were viewed as a major problem area that would have to be resolved before transatlantic cooperation can improve. Included in the dislike for U.S. restrictions are the time-consuming U.S. Government processes for approving technology transfer requests. Some officials told us projects had been delayed up to 2 years because of the U.S. approval process. In contrast, we were told there is a relatively free flow of technological information between European countries when an international project is involved.²³²

One French critic notes that:

U.S. officials have never left any doubt about the fact that American technical assistance should not injure, in any way, the technological and industrial interests of the United States . . . These policy guidelines have been repeatedly reaffirmed by Administrative spokesmen in their testimony before U.S. Senate and Congressional committees.²³³

The General Research Corporation's study of technological transfers for DOD supports Delpech's argument. In their conclusions, they note:

The Defense Science Board Task Force report on export control of U.S. technology (Bucy Report) and the Executive Branch study of technology transfers required by the International Security Assistance Act of 1977 portend tighter export controls that could impact on NATO standardization and interoperability policies

New U.S. arms transfers policies combined with the growing concern to control the export of U.S. technology have created further uncertainties about prospects for trans-Atlantic cooperation in weapons development and production by means of licensed production and co-development.²³⁴

Nor is industry likely to ease its resistance. As Parris argues:

Nor will (massive) transfers of technology be easily accomplished. Not only is there inherent reluctance to transfer proprietary technological know-how, but, as pointed out by the Task Force on Transfer of U.S. Technology, there are

numerous manners in which technology transfer may be simulated without conferring true expertise. In the words of one analyst: "Experienced technology purchasers realize that the sale of technical information (process sheets, materials specifications, and printed machine-operating instructions) without a sustained enterprise-to-enterprise relationship and the technical support and guidance that accompany such a relationship does not lead to effective and successful technology acquisition."

Further, both the Task Force and the General Accounting Office recommend against the transfer of high-technologies without strict control mechanisms. The GAO admonition that "formal procedures or mechanisms to insure that U.S. furnished defense articles are not transferred to third countries without prior approval of the President" do not exist reminds us that subtle administrative practices in the guise of national security (or in any other matter of national importance) can impede the flow of information in both transatlantic directions.²³⁵

A NATO group, AC/94 (NATO Group on Intellectual Property) has been formed to study the problem of protection of proprietary rights and interests. Guidelines on intellectual property rights have been developed by the group and accepted by CNAD.²³⁶ Industry was asked to comment on those guidelines; the response of United States industry (via the Council of Defense and Space Industry Association (CODSIA) which is an umbrella group of United States defense industries) was generally unfavorable.²³⁷

It is our belief that U.S. industry is vitally interested in supporting the general principle of standardization and interoperability of equipment within the NATO countries. It is our belief this can be accomplished in a manner which is supportive to U.S. industry rather than destructive. While the U.S. Government should reasonably establish regulations for its own benefit in its domestic competitive licensing program such regulations and any regulations established for the NATO RSI program should be supportive of U.S. industry's foreign interests.²³⁸

The report of the House Appropriations Committee on the FY 1980 Defense Appropriations Bill illustrates the basic problem involved from the industry viewpoint and suggests that it is unlikely to be easily resolved:

U.S. contractors pointed out a distinction between protecting technical data involved in production and those which are involved in research and development. Many feel that once a system has reached the production stage it is "old technology" and it is not harmful to U.S. interests to offer it for export. This is true, they maintain, because in giving away this technology the United States should be working on new techniques to replace this "old technology," and this is the information which should be protected. This is the principal reason that U.S. contractors, if they can avoid it, do not want to become involved in collaboration during the R&D phase. This reluctance on the part of the United States is driving Europeans to enter into R&D ventures of their own, thus causing duplication of effort and minimizing standardization.²³⁹

As noted by the General Research Corporation, government protectionism is likely to be increased with it becoming increasingly harder, rather than easier, to get government approval for transfers. Thus, the problem of technology transfer will likely continue as a major impediment to standardization.

Turning to the second problem area (the technical problems associated with transfers), the difficulties associated with transferring the Roland missile from Europe to the United States are an excellent example of the difficulty of merging industries which: (a) have differing methods; and (b) are of different levels of sophistication. General James Polk notes the first problem:

. . . Foremost among the practical difficulties associated with standardization are those stemming from

the differing national production methods and differing machine tools, including differences in tolerances, in metric versus nonmetric measurements, and in the quality, hardness, and strength of materials. For example, a subassembly component designed and manufactured in France or Germany, when licensed for production in the United States, will require a complete new set of engineering drawings to fit the tooling, tolerances, and methods of production of a modern American plant. Subsequently, the new end item will have to go through a rigorous and probably expensive test cycle, despite the fact that it has been thoroughly tested in Europe, to determine if the revised design meets U.S. performance and durability standards. This process, of course, works both ways, and the end product is almost always not quite standard; thus the U.S. subassembly will almost but not quite fit on the European major assembly and vice versa.²⁴⁰

Although this technology problem is more susceptible to solution than the earlier problem, as Polk notes, some differences will be inevitable and thus full standardization will always be unattainable.

The GAO notes the problem of technological maturity (the technology gap), a problem which is more difficult to resolve and which will continue to present problems in cooperative programs:

There are several important differences between U.S. arms activities and those of European nations. The United States is more technologically advanced in certain key defense fields and is oftentimes a more cost-effective producer of military hardware. These factors limit transatlantic arms cooperation.

The United States maintains a technological superiority over its most industrialized NATO partners in certain areas such as aerospace. The United States spends about twice as much on military research and development as all the European allies taken together. This extensive funding of research and development is credited with allowing the United States to often produce better and more cost-effective weapons systems than others are capable of doing.²⁴¹

The entire issue of technology transfer thus poses numerous problems for standardization. None will be easily solved and some, I argue, are unsolvable and will always restrict standardization.

Export Policy

Export sales are an important consideration for most European industries and governments in large part because, given their own relatively small national requirements, export sales provide the potential for economies of scale.²⁴² The United States, while concerned with exports for this reason, also uses exports for broader political-military purposes. All will resist any policy which restricts their control over exports.²⁴³

Yet standardization, involving cooperative efforts, inevitably encroaches on this national prerogative. For example, members of the NATO F-16 consortium have tried to prevent the United States from selling the F-16 to Israel.²⁴⁴ Since the contract calls for 15% of all third-country export aircraft to be 'built' by the NATO members, they could probably succeed in preventing these sales if they wish to push the issue.

Likewise, current United States restrictions on arms transfers will cause potential European partners to hesitate to get involved in cooperative efforts with United States companies for fear of United States government vetoes over third-country exports of the system.²⁴⁵

The GAO sees the export problem as perhaps the most significant impediment to standardization.²⁴⁶ Possibly offsetting if, however, is the recognition that larger production runs available because of United States and NATO-wide involvement may negate somewhat the need to seek export markets. That is, reduced competition for markets may result when each country is not producing all of its own equipment and does not have to drum up business, since all the NATO members are automatically buying its products. However, even if this were to occur, the use of arms sales as a political-military instrument would still cause it to remain a real problem. The export problem is unlikely to be easily resolved and will serve as yet another major impediment to standardization.

Current Initiatives--An Appraisal

While the criticisms reviewed thus far have been general in focus, this final section examines criticisms of the current NATO efforts: the Long-Term Defense Program (LTDP), the three initiatives proposed by the United States, and the Transatlantic Dialogue/Independent European Program Group.

The NATO Long-Term Defense Program

In its study of the NATO LTDP, the General Accounting Office (GAO), while welcoming the effort, in its review of past efforts identified what will be the biggest impediment to success of the program; that is, the political inertia and resistance which has

caused similar efforts in the past to fail:

Similar past improvement efforts have been impaired by NATO's inability to overcome the national concerns of its members. Studies and defense reviews have identified problems and sought solutions. For example, a 1970 study generated by NATO's own Defense Planning Committee identified critical deficiencies which would face the alliance during the 1970s. This study uncovered shortcomings such as deficient anti-armor capabilities, reinforcement deficiencies, maldeployment, crisis management capabilities, air defense problems, and communications shortfalls. At that time, the Defense Ministers agreed to place higher priorities on these areas. Nearly a decade later, these same issues are addressed in the new program.²⁴⁷

As has been pointed out over the previous part of this chapter, no evidence exists to show that nations are likely to behave any differently than in the past, or that the environment which would support such an effort has emerged (e.g., a dramatic change in the Warsaw Pact threat to NATO). Rather, nations are acting as they have in the past, putting low or domestic interests first, as has been demonstrated throughout this critique. The GAO notes, again, this fact:

. . . In adopting the Long-Term Defense Program, a number of countries expressed certain reservations, or voiced general agreement, with specific commitments pending further study or refinement of proposals. Thus, the plan is far from complete and some important and sensitive issues remain unresolved.²⁴⁸

The House RSI Subcommittee likewise noted the incomplete and tentative nature of the LTDP. They were thus hesitant to comment on its potential impact, noting only that, in any case, the impact would be well down the road--10 to 20 years, at least.²⁴⁹

The General Accounting Office did make one observation which in light of the adoption of the PAPS/MENS procedures does indicate that NATO is at least recognizing its problems: the GAO argued it was essential to overhaul NATO's complex, time-consuming planning system. The MENS process, however, is itself subject to telling criticisms. As was noted earlier, it is difficult to utilize the MENS process within the United States alone--faith that it can be implemented on an international level may well be misplaced. One critic, now the head of the Standardization and Armaments Division, United States Mission to NATO (Colonel Daniel Malone), soundly attacked the whole process, noting that ". . . the MENS system simply extends previous similar efforts toward NATO RSI, reaffirming the familiar constraint of bureaucratic solutions, which is the repetition of what is already familiar."²⁵⁰ It is, he argues, a return to the discredited NEMR system. Thus, he argues, it merely adds another management level to the procurement process, complicating, not smoothing the path.²⁵¹

The Triad of Initiatives

Memoranda of Understanding (MOU). The entire MOU process was soundly criticized and ultimately condemned by the House RSI Subcommittee. They found two major problems with it. The first is that the MOUs are merely executive understandings and do not bind anyone. This raises the possibility that the understandings reached will face implementation problems:

The possibility of MOUs not being implemented is obvious since there is no participation by the U.S. Congress in the formative stages, and congressional approval will not be achieved until enactment of appropriations or other implementing legislation. Earlier congressional endorsement is not feasible since individual members, subcommittees or committees cannot direct the enactment of specific future legislation.²⁵²

This poses serious political problems for the alliance if expectations are unduly raised only to be disappointed by failure of one partner.

A second problem is that, as the subcommittee report points out, the MOU process encourages a system of offsets and linkages which introduces inefficiencies into the procurement process (as noted earlier). Further, Congress will insist on approving each of the elements of the package separately. The inability and unwillingness of Congress to consider the entire package as a whole will result in ruptures of some of the linkages and thus the whole package will fall apart. Again, political repercussions within the Alliance in this event would far outweigh the slight potential for gain.²⁵³ The offset agreements likewise would violate A-109; that is, the Federal Procurement Office's requirement for competitiveness in defense procurement. Hence, all such packages would be susceptible to strong legal challenges from perceived losers in the United States.²⁵⁴

The subcommittee's recommendation was:

Realizing the serious consequences of probable situations and having been unable to identify any meaningful mechanism for congressional control and endorsement, the use of MOUs should be minimized.²⁵⁵

The House Appropriations Committee likewise argued that: (a) the MOUs will not help make Europe competitive; and (b) are likely to raise false hopes and expectations within Europe. Hence, they, too, concluded that they would do more harm than good.²⁵⁶

The Family of Weapons (FOW). No element of the triad of initiatives has caused the concern that the Family of Weapons concept has. Industry and Congress have taken the lead in this criticism, both arguing that the FOW is non-competitive and will lead to economic hardship in the United States.

The Family of Weapons concept is not a new one. Robert James, in an article in 1967 for the Institute for Strategic Studies, suggested a similar concept:

What are the most hopeful fields for improved progress in the future? It would seem that one of the most promising is that member-countries could combine their resources to develop a 'family' of equipment, thus securing all the advantages of co-operation without too great dispersal of effort. In these arrangements much flexibility would have to be retained, but it would seem that agreement to co-operate on these lines would be easier to secure than in specific co-operative projects, and would have many attractions to individual member-countries. The proposed Conference of National Armaments Directors might be a suitable body to investigate the most promising areas for such co-operation.²⁵⁷

Alastair Buchan also referred to it in his article in the same series that year.²⁵⁸

The current FOW concept promises, however, to be a much more complex process than James probably had in mind. Currently, four families have been identified: air-to-air missiles, anti-tank guided missiles, air-to-surface weapons and anti-tank missiles.²⁵⁹

The complexities of implementation were pointed out in a recent article in International Defense Review:

. . . The four families mentioned earlier have been discussed throughout CNAD and the three largest European countries (France, FRG and UK) have been asked to take the lead in various families. There may be different countries involved for other families as they come along.

In practice, a number of phased MOUs will have to be signed covering different issues. There would be an MOU on basic principles signed by all of the pilot countries involved. The detailed implementation MOU might be signed by the country where the consortium leader resided or by all the countries involved. These questions are yet to be resolved, but it is accepted that there will be several phases. Rather than wait five years until the systems are all developed, the DOD wants first to agree on principles (which is already partly done), then agree on specific policies (which Dr. Garber hopes can be achieved by the end of this year) and third to agree on programs: in each case there will be specific MOUs to be signed.²⁶⁰

Whether projects can possibly survive the immense bureaucracy which must exist to support these procedures is doubtful; the system may itself be the biggest impediment to implementation.

Other problems become obvious when reviewing DOD testimony. Before the Senate Armed Services Committee on Research and Development in 1975, testimony by Dr. Perry illustrates how formless and undefined the concept actually is:

The third part of our triad of cooperative programs is the family of weapons. In the family of weapons, we try to make agreements before we start developing a program, and we try to make an a priori agreement that one country will develop one system and another country will develop a complementary system. Then when the program is completed, each of these countries will allow the other countries to produce the system which it has developed. This is intended to deal with the issue of how do we get the full benefit of European research and development, as well as U.S. research and development. The answer is in order to do that we have to

somehow avoid the duplication of R. & D. which is now going on and that requires an agreement at the beginning. We will talk with you today about some of the programs in that area.²⁶¹

Likewise vague is the definition of the FOW provided by the United States Air Force Assistant Deputy Chief of Staff for Research, Development and Acquisition, Major General James R. Brickel:

The package concept envisages reduction in duplicative developments and this process could entail economic sacrifices for some nations. The process must therefore be structured to balance such sacrifices with economic benefits. Under this concept, for example, an agreed package might consist of four different types of munitions, each for a different type of mission and each from a different nation. Certain items could be nationally developed whereas other items could be developed by groups of nations or by one nation with funding provided by two or more nations. Every item in a package would be available to all participating nations for licensed production or two-way purchases. Not every nation would be expected to acquire every item in a package and no nation would be expected to acquire an item for which it does not have an operational requirement. The benefits would be improved operational standardization as well as more economical use of R&D resources.²⁶²

And, again, Dr. Perry discusses the concept:

The allocation between nations of development responsibilities for the individual weapons family will be based on capabilities, and willingness to invest resources. On all programs, for which we are responsible for development and production, we will select the U.S. prime contractors, subcontractors, and European contractors on a competitive basis to insure the best technology and lowest cost in the resulting system. We will similarly complete the selection of alternate production sources for those European designed weapons which are to be produced here. For those programs for which Europeans are responsible, we will endeavor to assure the the aims of competitive practice are achieved.²⁶³

In addition to its vagueness, these statements, especially Brickel's, open the question of competitiveness. Brickel exacerbates

this by noting:

Because a nation which participates in a package agrees to refrain from developing an item which competes with any other item in the package, there has arisen a concern among some nations that they might experience lags in technological capabilities. Therefore, for the concept to succeed, there must be full technology transfer relative to all weapons in a given package.²⁶⁴

The House RSI Subcommittee was especially critical of this problem.

Noting the element of anti-competitiveness:

Proponents of arms cooperation have long recognized that cooperation between the alliance members would be enhanced if the members could agree in advance to complementary rather than competitive development of weapons systems. In recent years this concept has been merged with the argument that competition within the alliance that results in two or more systems instead of one is wasteful and militarily inefficient.

The Family of Weapons concept is an approach to arms cooperation which is designed to eliminate competition between member nations by a process of grouping "families" of weapons and then dividing up the work so that no two nations would develop weapons for the same mission area.²⁶⁵

The subcommittee pointed both to the formlessness and the exploratory nature of the concept but narrowed its major criticism to three points:

1. The cost savings implied may in fact be illusory; DOD

testimony was contradictory on this point:

Dr. Frost says the real savings would come in procurement, not R&D, and Dr. Perry says each nation can produce the system domestically, so whatever savings there are would have to come from R&D. Based upon these two statements the tentative conclusion would be that the U.S. will save little or no money.²⁶⁶

2. Elimination of competition will result in inferior weapon systems. Support for this point came from industry witnesses.²⁶⁷

3. The system is anti-competitive and opposed to the free enterprise process. Industry was especially critical on this point:

Mr. Walter Edgington. (Chairman of the Export-Import Committee of the Government Division of the Electronic Industries Association). The example used by the administration is an agreement with NATO for one country to be selected, presumably by NATO bureaucrats meeting secretly behind closed doors, to develop a certain type of antitank missile while another country will be selected to develop a complementary missile. This seems to fit what can be described as political horsetrading, or as Ambassador Komer also put it, dividing the pie reasonably.

One is left with the uneasy feeling that the whole process is a total change in concept to the traditional free enterprise process and one in which this country would be the loser.

Mr. Chairman, this is a concept which must be totally rejected by Congress. To permit the executive branch to conclude such memorandums of understanding could have a devastating effect upon our balance of trade, our commercial export markets, and jobs here at home.

Mr. Oswald. (Spokesman for the AFL-CIO). This is not healthy because that really denies us the ability to develop our own expertise in that area. Our relationships are very important with NATO, but they are not our sole relations.²⁶⁸

Colonel Malone, noted earlier as critical of the MENS process, likewise is critical of the lead nation or FOW concept:

Both the lead nation approach and the NATO MENS approach raise hackles and ire in a variety of audiences. Neither the lead nation research and development approach nor the MENS international combat development approach match the ROLAND experience. The lead nation approach invites assignment of tasks based on political weight rather than technological capability.²⁶⁹

Malone summarizes the problems he sees with both the MENS and FOW:

. . . The problem for MENS and "lead nation" policies to solve, then, seems to be to find a way to assure the competition that will also drive technological development and lower costs.²⁷⁰

Malone, to reiterate, is the major United States point of contact for standardization at the United States Mission to NATO (political side).

The challenge based on competitiveness is, again, a most telling one. In spite of DOD's arguments, the FOW concept does appear to be anti-competitive, especially when one realizes, as noted earlier, that for most European countries, only one serious competitor exists in each weapon field. Once the nation is awarded the lead-nation position, competition between contractors has effectively ended. United States industry will certainly object and Congress will likely stall procurement of the resulting systems. In sum, the concept creates a perception of non-competitiveness which will make its implementation impossible.

A final and slightly different criticism of the Family of Weapons concept was offered by the Chief of Defense Procurement, Ministry of Defense, United Kingdom, when he pointed out the danger of stifling or limiting technology:

. . . Elimination of duplicated R & D in particular areas, while encouraging standardisation, will reduce insurance against failure in development: will reduce the scope of purchasers to select the best buy for their needs: and will be bound to impinge on the opportunities for individual European countries to participate.²⁷¹

My conclusion is that it will not work: the Family of Weapons is an idealistic solution to a very nearly intractable problem. While the concept itself is probably as good a framework as any for

organizing the effort, one could argue, however, that by bringing into clearer focus the question of limited competition which is inherent in all standardization efforts, it provides a clear target for opposition and thus, in fact, helps opponents organize their positions. The crux of the problem is that argued earlier in the chapter--that there is no way around the political impediments to standardization arising from the essentially "low" nature of the issue.

Dual production. The concept of dual production allows for several variations. It includes straight licensing (as with Roland) as well as coproduction (as with the F-16).²⁷² In theory, while production contracts would be awarded based on competition, in reality the anti-competitiveness inherent in the FOW concept may override this. Thus, it is not quite identical to the second approach described in Chapter II (competitive research and development with licensed production), although the Department of Defense does argue that it is. It is, however, consistent with Congressional directives in the FY 1977 Authorization Bill calling for greater reliance on licensing and coproduction agreements.

Licensed production, which is admittedly a compromise, does have much to offer. It recognizes domestic political realities. Nevertheless, many problems are associated with it and, although it is a better approach than any of the others, these problems will make the use of it difficult. The Library of Congress report

identifies some of these problems, especially the higher cost (as opposed to the ideal form of standardization - direct purchase with single-source production), technology transfer and export conflicts.²⁷³

An additional problem is the existence of domestic resistance to local production of a foreign designed system even when there are no economic costs or sacrifices associated with it. The production of the Leopard-II tank is a good example. The tank would have been produced in the same factories as is the XM-1 resulting in no job losses or production losses for the companies. Nevertheless, the services as well as United States labor and industrial interests opposed the Leopard-II. This is the result of both service parochialism reflected in resistance to foreign developed systems (the Not-Invented-Here syndrome) as well as simple national pride. Both will be difficult to overcome.

The Library of Congress report summarizes four considerations which should be kept in mind if dual production is implemented:

- If unit costs escalate too severely, fixed budgets will dictate that fewer systems be purchased, and hence there may be a net loss in military effectiveness, in spite of the military benefits gained through improved standardization.

- If each of the coproducing states elects to modify the basic design significantly to suit national purposes, many advantages of standardization will be lost.

- Unless the number of firms engaged in competitive R&D are trimmed significantly through greater specialization, there will be no economic benefit realized through an elimination of duplicative R&D.

- Unless economies of scale can be preserved through substantial exports to non-NATO states, an economic cost will be incurred. As Israel's pending request to coproduce

the F-16 has demonstrated, boosting export sales may be complicated by the desire of U.S. non-NATO allies to co-produce, rather than purchase, weaponry.²⁷⁴

In summary, the dual production scheme is largely a de facto acceptance of what industry and the services were doing already, on their own. As frequently happens, business is often more astute at recognizing political realities quickly and in moving to reach feasible solutions to problems well ahead of the bureaucracy. Thus it is with dual production. Two concerns are paramount, however. One is that dual production is not appropriate for every situation. By giving it official sanction, it will now be applied to each and every procurement, and often, because it is not appropriate, will fail. The second concern is related to this; now that industry realizes that what it has been doing all along has been co-opted and tied into a standardization package, industry may begin to resist dual production because of a broader opposition to standardization. It is possible that industry will perceive dual production as a first step to wider and more encompassing supranational control over weapons development and procurement. If this is the case, dual production itself will become embroiled in the larger controversy and will encounter problems that normally would not be encountered.

Colonel Malone summarizes this concern well:

Throughout the interviews and the ADPA seminar discussions many people murmured about a new cult - RSI - emerging to standardize for the sake of standardization. Indeed, the necessary system is being formed - congressional committees, councils within DOD, shibboleths to which weapons proponents must genuflect in the weapons

acquisition process, and the formalization of procedures via MENS and "lead nations" in the weapons families. Time and again, senior people advised caution: to move carefully, to achieve RSI on a case-by-case basis as the opportunity occurred, and not to try to accomplish everything at once. ROLAND, the F-16, and the HAWK all achieved one or another success opportunistically. The ethos of the huge coalition-wide agglomeration of money, politics, and war favors the case-by-case approach, recognizing a monopoly on neither good ideas nor bad ones.²⁷⁵

The Transatlantic Dialogue and the
Independent European Program
Group

Although not a major focus of this work, the Independent European Program Group and the related Transatlantic Dialogue cannot be ignored. It is useful to review the advantages and disadvantages of these two institutions.

On the positive side, the IEPG: (a) provides a forum for developing European cohesion which may supercede a national focus; (b) may be a means of overcoming parochial procedures and impediments to standardization within Europe; and (c) provides a forum which may lead to an increased awareness of NATO's force posture requirements vis-a-vis the Warsaw Pact, by offsetting European preoccupation with the parochial elements of weapons production. On the negative side: (a) institutionalization of yet another bureaucracy may further complicate issues (the variety of subgroups with overlapping and duplicative functions is overwhelming; one is tempted to suggest that rationalization ought to be attempted first within the standardization bureaucracy); and (b) the IEPG may lead to cartelization of weapons procurement and a deterioration of cross-Atlantic cooperation

with NATO, threatening even NATO itself.

My concern focuses on one of these concerns plus an additional fear. First, the French may in fact be using the Independent European Program Group for parochial purposes. Fearful of where standardization might have lead under the Eurogroup, France now has an active voice in the IEPG where it can steer events in a direction favorable to her interests. While I find French emphasis on interoperability to be reassuring (in fact, they may succeed in undercutting the broader NATO emphasis on standardization which the Eurogroup would probably have pushed harder), I find a highly closed forum within which European members of NATO organize to "cooperate" a highly dangerous precedent. This leads to my second concern, which is that the IEPG will lead to separtism within NATO. The irony of this outcome would be that it was the United States who encouraged and supported this movement. A European-wide development and procurement organization, competing with the United States in NATO and for exports, could lead to disintegration within NATO. Even if NATO were to survive, standardization would not be advanced, although success among the European members at cooperative production might lessen the degree of destandardization.

In his article on the Independent European Program Group, D.C.R. Heyhoe elaborates on this later problem. As he points out, the NATO International Staff is highly suspicious of European-wide groups:

. . . The uncomfortable feature of the situation so far as the International Staff are concerned is that they have no control over the Eurogroup's activities, although the NATO Secretary-General is regularly briefed by a Eurogroup representative after each ministerial meeting, and it is standard practice for the Eurogroup chairman to make a statement at the subsequent ministerial DPC meeting. So it was not to be expected that they would welcome an offspring which fitted even less easily into their preferred pattern.

Nevertheless, it would be a mistake to characterize the NATO Establishment's view as nothing more than wounded pride. It also encompassed serious concerns which are reflected in the article's further criticism that: 'Senior NATO military staff are very unhappy at the proposed separate arms body: they see it as acquiring secretariat and staff, and, worst of all, ambitions towards arms strategy development once it goes into joint arms projects.'²⁷⁶

I share this concern and see it as a potential serious threat to NATO cooperation.

Conclusion

While this chapter has reviewed a series of criticisms to standardization, both its desirability and its feasibility, my major argument in this work is that standardization is not feasible and primarily for political reasons. Weapons procurements are a "low" policy issue - a distributive question. Hence, national governments and local interests will continue to demand national control over procurement decisions. Standardization, requiring significant surrender of national autonomy and sovereignty to be successful, must therefore fail.

The remainder of this work examines several procurement case studies in the United States in which standardization concerns play a role. The focus is on the political resistance which emerged.

In all cases, the low-high dichotomy and overwhelming opposition based on the low or distributive nature of the procurements is highly visible. Sometimes the opposition succeeded in derailing the procurement; other times, it failed. In any case, every procurement decision connected with standardization has faced and will continue to face the same hurdles. A comprehensive program is therefore unlikely to emerge. Since successful standardization will require confidence that all pieces can be accomplished, the disaggregated nature of the decision-making process will make implementation of standardization a nightmare.

Footnotes

- ¹Callaghan, U.S./European Economic Cooperation, p. 1.
- ²Ibid., pp. 110-125.
- ³Ibid., p. 118
- ⁴Ibid.
- ⁵Ibid., p. 119.
- ⁶Bert Stringer, Northrop Corporation, Interview at Washington, D.C. Headquarters, Northrop Corporation, September 16, 1977.
- ⁷Callaghan, U.S./European Economic Cooperation, p. 15.
- ⁸Jean-Laurens Delpech, "La Standardisation des Armements," Defense Nationale (May 1976), introduction and translation by Ciro E. Zoppo, Technology Service Corporation, August, 1976, p. 10.
- ⁹Ibid., p. 11.
- ¹⁰House Armed Services Committee, Report on NATO Standardization, p. 25.
- ¹¹Gardiner Tucker, Towards Rationalizing Allied Weapons Production, The Atlantic Papers 1/76 (Paris: The Atlantic Institute for International Affairs, October, 1976), p. 11.
- ¹²Department of Defense, Rationalization/Standardization Within NATO, Second Report, p. 53.
- ¹³Library of Congress, NATO Standardization: Political, Economic, and Military Issues for Congress, pp. 28-29.
- ¹⁴U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Authorization for Appropriations for Fiscal Year 1979, Hearings on Military Posture and H.R. 10929 before the Committee on Armed Services, House of Representatives, 95th Cong., 2nd Sess., part 1, March 1, 1978, p. 1353.
- ¹⁵Library of Congress, NATO Standardization, pp. 29-31.

¹⁶Ibid., p. 29.

¹⁷John J. Ford, "NATO Standardization and Interoperability-- A Time for Involvement," National Defense 63(January-February 1979), p. 45.

¹⁸John K. Daniels, "NATO Standardization--The Other Side of the Coin," National Defense 61(January-February 1977), p. 302.

¹⁹Eliot Cohen, "NATO Standardization: The Perils of Common Sense," Foreign Policy 31(Summer 1978), pp. 84-85.

²⁰Ibid., p. 87.

²¹House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1979, part 3/1, February 15, 1978, p. 29.

²²Cohen, "NATO Standardization," p. 87.

²³F. Clifton Berry, Jr., "Poor European Productivity Plagues U.S. Purchases," Armed Forces Journal, International 113(March 1976), p. 32.

²⁴U.S., Congress, General Accounting Office, Sharing the Defense Burden: The Multinational F-16 Aircraft Program, Report to the Congress by the Comptroller General of the United States, Report PSAD-77-40, August 15, 1977, p. 2.

²⁵Cohen, "NATO Standardization," p. 82.

²⁶See Heyhoe, The Alliance and Europe, p. 16, where he argues that a joint project may be more expensive overall than direct purchase, but is cheaper for each participant and for the Alliance as a whole than several independent projects. See also Roger Facer, The Alliance and Europe: Part III, Weapons Procurement in Europe-- Capabilities and Choices, Adelphi Paper #108 (London: The International Institute for Strategic Studies, 1975), p. 37; Alastair Buchan, "The Implications of A European System for Defense Technology," Number Six in the Series: Defense, Technology and The Western Alliance (London: The Institute for Strategic Studies, October, 1967), p. 15; and James, "Standardization and Common Production of Weapons in NATO," p. 19. On the other hand, Stephen Canby notes the illusory cost savings for the tank procurement, arguing that by the time licensing fees and cost increases due multinational production are added in, no savings would be left from the economies of scales, which would seem to indicate that no one would benefit

and each individual country would be left paying more for each system: Stephen Canby, "NATO: Reassessing the Conventional Wisdoms," Survival XIX (July/August 1977), pp. 166-167.

²⁷ Although he does tie them to separate areas of trade, i.e., equal defense/military expenditures. See Callaghan, U.S./European Economic Cooperation and Arthur Smithies, "Standardization, Rationalization and the Military Balance of Payments," Unpublished report for the Secretary of Defense, Cambridge, Mass., August 28, p. 11.

²⁸ Callaghan, U.S./European Economic Cooperation, pp. 53-56.

²⁹ Smithies, "Standardization, Rationalization and the Military Balance of Payments," pp. 2, 6; Arthur Smithies, "Standardization, Licensing and Collaboration," unpublished memorandum to supplement memorandum of October-November, 1975, Cambridge, Mass., n.d., p. 7.

³⁰ House Armed Services Committee, Report on NATO Standardization, p. 14.

³¹ Yet, as noted earlier, even savings to the Europeans are being challenged; See Canby, "NATO: Reassessing the Conventional Wisdoms," pp. 166-167.

³² Richard M. Saunders, "Standardization: In Search of the Holy Grail," Army 29(February 1979), p. 18.

³³ Delpech, "La Standardisation des Armements," p. 23; See also Library of Congress, "NATO Standardization," p. 39.

³⁴ Cohen, "NATO Standardization," pp. 81-83.

³⁵ Ibid., p. 87.

³⁶ House Armed Services Committee, Report on NATO Standardization, p. 1; See also pp. 13-15.

³⁷ U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriation Bill, 1980, Report of the Committee on Appropriations to accompany H.R. 5359 (House Report 96-450), 96th Cong., 1st Sess., September 20, 1979, p. 279.

³⁸ Smithies, "Standardization, Rationalization and the Military Balance of Payments," p. 5.

³⁹ Ibid., p. 6.

- 40 Ibid.
- 41 Ibid.
- 42 Ibid.
- 43 Ibid., p. 8.
- 44 Ibid.
- 45 Ibid., pp. 8-9.
- 46 Paul Lewis, "Europe's Fighter Jet Program," New York Times, November 13, 1979, p. D-1.
- 47 Smithies, "Standardization, Rationalization and the Military Balance of Payments," p. 12.
- 48 Smithies, "Standardization, Licensing and Collaboration," p. 8.
- 49 Clifford Cornford, "European Equipment Cooperation," Royal United Services Institute Journal 124(March 1979), p. 48.
- 50 Daniels, "NATO Standardization," p. 303.
- 51 House Armed Services Committee, Hearings on NATO Standardization, p. 1330.
- 52 James, "Standardization and Common Production of Weapons in NATO," p. iv.
- 53 Paraphrased from General Accounting Office, NATO, pp. 23-24.
- 54 Ibid., p. 25.
- 55 Ibid.
- 56 Ford, "NATO Standardization and Interoperability," p. 46.
- 57 Michael D. Eiland, "The Two-Way Street in NATO Procurement," p. 63.
- 58 U.S., Congress, General Accounting Office, Transatlantic Cooperation in Developing Weapon Systems for NATO: A European Perspective, Report to the Congress by the Comptroller General of the United States, Report PSAD-79-26, March 21, 1979, p. 26.

⁵⁹Heyhoe, The Alliance and Europe, p. 13.

⁶⁰Howard Lindsey Parris, Jr., "NATO Standardization: Underneath the Two-Way Street," unpublished memorandum for Dr. William Kaufmann, Professor of Political Science, The Massachusetts Institute of Technology, 1978, p. 29. Mr. Parris was a graduate student at Harvard; his review and critique of NATO standardization is one of the best I came across.

⁶¹Ibid., pp. 1, 9-10, 29; Also Shaffer, "Problems of Alliance Performance," pp. 28-29; For the view of American industry see The Allied Interdependence Newsletter 4(Washington, D.C.: Georgetown University, The Center for Strategic and International Studies, July 7, 1978), pp. 17-19; and Daniels, "NATO Standardization," p. 301.

⁶²Thomas A. Callaghan, Jr., "Standardization: Le Defi Americain a L'Europe," NATO Review 24(October 1976), p. 26.

⁶³Ibid.; Several critics, however, have noted one exception to the rule in Europe: that of Germany. They agree that Germany has consistently put military effectiveness at the top of the list of factors motivating her participation in cooperative efforts. See the following: Arthur Smithies, "Memorandum for the Record: Visit of Dr. Arthur Smithies to Belgium, Germany and England," Office of the Assistant Secretary of Defense, International Security Affairs, December 8, 1975, pp. 3-4; NATO Standardization and Licensing Policy, Executive Summary, General Research Corporation, p. 14; and General Accounting Office, Transatlantic Cooperation in Developing Weapon Systems, p. 28.

⁶⁴Smithies, "Standardization, Rationalization and the Military Balance of Payments," pp. 2-3.

⁶⁵I am indebted to Professor Michael Gordon, University of California, Santa Barbara, for this insight.

⁶⁶Callaghan, U.S./European Economic Cooperation, p. 118.

⁶⁷Department of Defense Appropriation Authorization Act, 1977, Public Law 94-361, Section 803(c).

⁶⁸Text of President's Speech to NATO Summit Conference, New York Times, May 11, 1977, p. A-14.

⁶⁹Senate Armed Services Committee, Hearing on European Defense Cooperation, p. 5.

⁷⁰House Armed Services Committee, Report on NATO Standardization, p. 20.

⁷¹See Aviation Week and Space Technology, April 11, 1977, p. 15, Defense and Foreign Affairs Daily, April 22, 1977.

⁷²Smithies, "Standardization, Rationalization and the Military Balance of Payments," pp. 14-15.

⁷³House Armed Services Committee, Report on NATO Standardization, pp. 20-25.

⁷⁴Ibid., p. 20.

⁷⁵Ibid., p. 21.

⁷⁶Ibid., pp. 21-22; the difference depends on whether one uses DOD or Department of Commerce figures; Commerce is closer to \$2 billion while DOD is closer to \$1 billion.

⁷⁷Ibid., p. 22.

⁷⁸Ibid., pp. 23-24.

⁷⁹Ibid., p. 23.

⁸⁰Ibid., p. 25.

⁸¹House Armed Services Committee, Hearings on NATO Standardization, p. 1330.

⁸²Ibid.

⁸³Ibid.

⁸⁴Keith Hartley, "NATO Standardisation and Nationalism: An Economist's View," Royal United Services Institute Journal 123 (September 1978), p. 58.

⁸⁵House Armed Services Committee, Report on NATO Standardization, p. 7.

⁸⁶Ibid., p. 36.

⁸⁷Canby, "NATO: Reassessing the Conventional Widsoms," p. 164.

⁸⁸Ibid., p. 166.

⁸⁹Ibid.

⁹⁰Ibid., p. 167.

⁹¹Ibid.

⁹²Ibid.

⁹³Robert W. Komer, "Coalition Warfare," Army (September 1976), pp. 28-32.

⁹⁴Canby, "NATO: Reassessing the Conventional Wisdoms," p. 167.

⁹⁵Parris, "NATO Standardization," p. 9.

⁹⁶Cohen, "NATO Standardization," p. 86.

⁹⁷House Armed Services Committee, Report on NATO Standardization, pp. 14-15.

⁹⁸Heyhoe, The Alliance and Europe, p. 13; See also Frank T.J. Bray and Michael Moodie, Defense Technology and the Atlantic Alliance: Competition or Collaboration?, Foreign Policy Report (Cambridge, Mass.: Institute for Foreign Policy Analysis, Inc., April, 1977), pp. 40-41.

⁹⁹Bray and Moodie, Defense Technology and the Atlantic Alliance, pp. 40-41.

¹⁰⁰House Appropriations Committee, Report on Department of Defense Appropriation Bill, 1980, p. 279.

¹⁰¹Walsh, "Initiatives in Standardization/Interoperability," p. 9.

¹⁰²Thomas A. Callaghan, Jr., "No Two-Way Traffic Without a Two-Way Street," NATO Review 25(October 1977), p. 23.

¹⁰³Ibid., p. 24.

¹⁰⁴Senate Armed Services Committee, Hearings on NATO Posture and Initiatives, p. 65.

¹⁰⁵Ibid.

¹⁰⁶House Armed Services Committee, Report on NATO Standardization, p. 1.

¹⁰⁷Ibid., p. 10.

¹⁰⁸Ford, "NATO Standardization and Interoperability," p. 45.

¹⁰⁹House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1979, part 1, March 1, 1978, p. 1355.

¹¹⁰Benjamin F. Schemmer, "Improving NATO's Efficiency and Getting the Alliance More Resources: AFJ Interview with General Alexander M. Haig, Jr.," Armed Forces Journal, International 116 (September 1978), p. 27.

¹¹¹Ford, "NATO Standardization and Interoperability," p. 45.

¹¹²House Government Operations Committee, Hearing on Problems in the Standardization and Interoperability of NATO Military Equipment (Part 2), p. 13.

¹¹³Shaffer, "Problems of Alliance Performance," p. 29.

¹¹⁴Mr. Justice White, professional staff member, House Armed Services Committee, interview in Washington, D.C., September 26, 1977.

¹¹⁵Mr. Robert Old, professional staff member, Senate Armed Services Committee, interview in Washington, D.C., September 23, 1977.

¹¹⁶C. W. Broklund, "NATO RSI and Arms Sales Abroad: Why the Dichotomy Won't Work," Government Executive (December 1978), p. 43.

¹¹⁷Ibid.

¹¹⁸Ibid.

¹¹⁹Robert Clarke, "Rational Planning for NATO Defense," Northrop Corporation paper, June 29, 1977, p. 7.

¹²⁰Ibid., p. 8.

¹²¹Ibid., p. 10.

¹²²Heyhoe, The Alliance and Europe, p. 22.

¹²³Ibid.

¹²⁴Delpech, "La Standardisation des Armements," pp. 10-13; See also the editors note, p. 2.

¹²⁵Ibid., p. 13; See also the translators note, p. 3.

¹²⁶James H. Polk, "Military Standardization within NATO: How Far Should We Go," in NATO Arms Standardization: Two Views, AEI Defense Review 6 (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1977):14.

¹²⁷Ibid.

¹²⁸Smithies, "Standardization, Rationalization and the Military Balance of Payments," p. 4.

¹²⁹Ibid.

¹³⁰Ibid.

¹³¹Ibid., p. 5.

¹³²Smithies, "Standardization, Licensing and Collaboration," pp. 9-10.

¹³³House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1979, part 3/1, February 15, 1978, p.28.

¹³⁴Cohen, "NATO Standardization," pp. 87-88.

¹³⁵Interestingly, when France tried to convince the Belgians to buy the Mirage for "European considerations," the Belgium Defense Minister was reported to have asked, "Why is France only European when it comes to armaments? We have nothing to learn from you about being good Europeans," quoted in Heyhoe, The Alliance and Europe, p. 10.

¹³⁶Smithies, "Standardization, Licensing and Collaboration," p. 4.

¹³⁷Delpech, "La Standardisation des Armements," p. 22.

¹³⁸Ibid.

¹³⁹House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1979, part 1, March 1, 1978, p. 1358.

¹⁴⁰Edmund K. Daley, Jr. (Lt. Col., U.S. Army), "Standardization or Bankruptcy for NATO," U.S. Naval Institute Proceedings 104 (November 1978), p. 80.

¹⁴¹Cohen, "NATO Standardization," p. 77.

- 142 Ibid., p. 79.
- 143 Ibid., p. 84.
- 144 Ibid., pp. 85-86.
- 145 Ibid., p. 86.
- 146 Ibid., p. 87.
- 147 Ibid., p. 88.
- 148 Ibid.
- 149 Ibid.
- 150 Ibid., p. 89.
- 151 Ibid.
- 152 Polk, "Military Standardization Within NATO," p. 20.
- 153 Shaffer, "Problems of Alliance Performance," p. 18.
- 154 Parris, "NATO Standardization," p. 12.
- 155 James, "Standardization and Common Production of Weapons of NATO," p. 24.
- 156 Ibid., pp. 6, 9.
- 157 E. Vandevanter, Jr. (Brig. Gen., USAF-Ret), Coordinated Weapons Production in NATO: A Study of Alliance Processes, A report prepared for United States Air Force Project RAND, Memorandum RM-4169-PR (Santa Monica, CA: Rand, November 1964), p. vii.
- 158 Ibid., p. 87; See also pp. v-viii, 49, 51, 73, 78-79.
- 159 Timothy D. Desmond, "Weapons System Duplication: Problems and Reforms," GAO Review 12(Summer 1977); and James R. Kirth, "Why We Buy the Weapons We Do," Foreign Policy 11(Summer 1973).
- 160 Polk, "Military Standardization Within NATO," p. 19.
- 161 Ibid., pp. 23-24.
- 162 Callaghan, "Standardization: Le Defi Americain A L'Europe," p. 26.

¹⁶³General Accounting Office, Transatlantic Cooperation in Developing Weapon Systems, p. 27.

¹⁶⁴Cohen, "NATO Standardization," p. 78.

¹⁶⁵Senate Armed Services Committee, Hearing on NATO Posture and Initiatives, p. 9.

¹⁶⁶Robert R. Simpson, "The IAM and Foreign Military Sales," Remarks by Robert R. Simpson, General Vice President, International Association of Machinists and Aerospace Workers, at the AIA International Council, San Diego, CA, April 14, 1977; and Ben Sharman, "The Economic Impact of Aerospace Technology Transfer," Remarks by Ben Sharman, International Affairs Representative, International Association of Machinists and Aerospace Workers, AFL-CIO, at the Fifteenth Goddard Memorial Symposium, sponsored by the American Astronautical Society, Sheraton Park Hotel, Washington, D.C., March 31 - April 1, 1977.

¹⁶⁷Parris, "NATO Standardization," p. 17.

¹⁶⁸The F-16/F-17 fly-off and subsequent awarding of the contract to the General Dynamics F-16 over the Northrop F-17 is still a bitter topic at Northrop Headquarters where a pure domestic political trade-off is seen as the factor losing Northrop the contract.

¹⁶⁹Canby, "NATO: Reassessing the Conventional Wisdoms," p. 166.

¹⁷⁰Lidy, An Alternative Approach to Achieve NATO Standardization, p. 22.

¹⁷¹Quoted in Ibid.

¹⁷²Cohen, "NATO Standardization," p. 83.

¹⁷³Morthland, et. al, Collaborative Weapons Development for NATO, p. 4.

¹⁷⁴Facer, Weapons Procurement in Europe, p. 33.

¹⁷⁵General Accounting Office, Standardization in NATO, p. 31.

¹⁷⁶Saunders, "Standardization: In Search of the Holy Grail," p. 19.

¹⁷⁷Morthland, et. al, Collaborative Weapons Development in NATO, p. 9.

178 Parris, "NATO Standardization," pp. 16-17.

179 Even Callaghan, in one of the few areas in which I agree with him, argues that a North Atlantic Common Defense Market and a NATO European Defense Procurement Agency would be required to achieve standardization. Note again, however, that Callaghan is not primarily concerned with achievement of standardization for military purposes. Callaghan, U.S./European Economic Cooperation, pp. 79, 110.

180 Ford, "NATO Standardization and Interoperability," p. 74.

181 See also Parris, "NATO Standardization," pp. 11-17 for additional discussion of the political problem.

182 Lidy, An Alternative Approach to Achieve NATO Standardization, pp. 22-23.

183 Ibid., p. 23.

184 Ibid., pp. 23-24.

185 Ibid., p. 24.

186 "Prospects for Alliance Trade and Cooperation in Military Equipment--to Achieve Standardization," unpublished report of the Transatlantic Policy Panel on Allied Interdependence (Washington, D.C.: The Center for Strategic and International Studies, Georgetown University, n.d.), pp. 18-19.

187 Senate Armed Services Committee, The Nunn/Bartlett Report on NATO and the New Soviet Threat, p. 20.

188 Lidy, An Alternative Approach to Achieve NATO Standardization, p. 25.

189 Robert G. Bell, analyst in the Foreign Affairs and National Defense Division, Congressional Research Service, interview in Washington, D.C., September 8-9, 1977.

190 Department of Defense Appropriation Authorization Act, 1977, Public Law 94-361, Section 802.

191 Ford, "NATO Standardization and Interoperability," p. 46.

192 NATO Standardization and Technology Transfer, Main Report, General Research Corporation, p. 50.

193

¹⁹⁴Callaghan, "Standardization: Le Defi Americain L'Europe," p. 25.

¹⁹⁵See Saunders, "Standardization: In Search of the Holy Grail," p. 18, for a discussion of the inherent cost and quality problem in European industry.

¹⁹⁶House Government Operations Committee, Hearing on Problems in the Standardization and Interoperability of NATO Military Equipment (Part 1), p. 7.

¹⁹⁷Ibid., pp. 7-8.

¹⁹⁸NATO Standardization and Licensing Policy, Executive Summary, General Research Corporation, p. 4.

¹⁹⁹Interview with officers on the Air Staff, Washington, D.C.: September, 1977.

²⁰⁰"Implications for U.S. Foreign Policy and Industry of Standardizing Military Equipment for NATO," Proceedings of State-Defense Colloquium with List of Participants (Washington, D.C.: May 9, 1975). Quotation is based on a transcription of Komer's remarks by the Colloquium editor, pp. 18-19.

²⁰¹Charles Wolf, Jr., et. al, "Offsets" for NATO Procurement of the Airborne Warning and Control System: Opportunities and Implications, A report prepared for United States Air Force Project RAND, R-1875-1-PR (Santa Monica, CA: Rand, February, 1976), p. 30; I am indebted to Mr. Justice White, staff member of the House Armed Services Committee for pointing out this report to me.

²⁰²Cohen, "NATO Standardization," pp. 93-94.

²⁰³House Appropriations Committee, Report on the Department of Defense Appropriation Bill, 1980, p. 279.

²⁰⁴Ibid., pp. 275-276.

²⁰⁵Ibid., p. 275.

²⁰⁶Ibid., p. 276.

²⁰⁷U.S., Congress, General Accounting Office, Observations on Office of Management and Budget Circular A-109--Major System Acquisitions by the Department of Defense, Report to the Congress by the Comptroller General of the United States, Report PSAD-79-9, February 20, 1979, pp. 9-15.

- 208 House Armed Services Committee, Report on NATO Standardization, pp. 50-60.
- 209 House Armed Services Committee, Hearings on NATO Standardization, p. 1451.
- 210 Ibid., pp. 1476-77, 1467.
- 211 Ibid., pp. 1480.
- 212 General Accounting Office, Transatlantic Cooperation in Developing Weapon Systems for NATO, p. 13.
- 213 Parris, "NATO Standardization," pp. 19-20; See also General Accounting Office, Standardization in NATO, pp. 23-24.
- 214 Tucker, Towards Rationalizing Allied Weapons Production, p. 15.
- 215 General Accounting Office, Standardization in NATO, p. 24.
- 216 Parris, "NATO Standardization," p. 21.
- 217 Ibid.
- 218 Polk, "Military Standardization Within NATO," pp. 16-17.
- 219 Bray and Moodie, Defense Technology and the Atlantic Alliance, p. 12.
- 220 Ibid.
- 221 House Appropriations Committee, Report on Department of Defense Appropriation Bill, 1980, p. 269; See also Heyhoe, The Alliance and Europe, p. 15.
- 222 Callaghan admits to the requirement problem, but sees a unique solution to it: he argues for procuring common equipment first and working out the requirements later. No one else has had quite the audacity to work around the problem in quite such an original fashion. He is, however, I suspect, dreaming. See "Prospects for Alliance Trade and Cooperation in Military Equipment--To Achieve Standardization," unpublished report of the Transatlantic Policy Panel on Allied Interdependence, p. 16.
- 223 Parris, "NATO Standardization," p. 22.
- 224 Delpech, "La Standardisation des Armements," p. 15.

- 225 Senate Armed Services Committee, Hearing on NATO Posture and Initiatives, p. 10.
- 226 General Accounting Office, Standardization in NATO, p. 25.
- 227 Parris, "NATO Standardization," p. 26.
- 228 General Accounting Office, Standardization in NATO, p. 26.
- 229 NATO Standardization and Technology Transfer, Main Report, General Research Corporation, p. 94.
- 230 House Armed Services Committee, Report on NATO Standardization, pp. 25-26.
- 231 Ibid., p. 27.
- 232 General Accounting Office, Transatlantic Cooperation in Developing Weapon Systems for NATO, p. 31.
- 233 Delpech, "La Standardisation des Armements," pp. 19-20.
- 234 NATO Standardization and Technology Transfer, Main Report, General Research Corporation, p. 93.
- 235 Parris, "NATO Standardization," pp. 24-25.
- 236 The guidelines are reprinted in House Armed Services Committee, Hearings on NATO Standardization, pp. 951-956.
- 237 The response in total is reprinted in Ibid., pp. 1019-1028.
- 238 Ibid., p. 1028.
- 239 House Appropriations Committee, Report on the Department of Defense Appropriation Bill, 1980, p. 273.
- 240 Polk, "Military Standardization Within NATO," p. 16.
- 241 General Account Office, Standardization in NATO, p. 28.
- 242 See General Accounting Office, Transatlantic Cooperation in Developing Weapon Systems in NATO, p. 32, for an illustration of how important exports are to some industries.
- 243 General Accounting Office, Standardization in NATO, pp. 27-28.
- 244 Cohen, "NATO Standardization," p. 88.

- 245 General Accounting Office, Transatlantic Cooperation in Developing Weapons Systems for NATO, pp. 32-33.
- 246 General Accounting Office, Standardization in NATO, p. 28.
- 247 General Accounting Office, NATO's New Defense Program, p. 11.
- 248 Ibid.
- 249 House Armed Services Committee, Report on NATO Standardization, p. 36.
- 250 Daniel K. Malone, Roland: A Case for or Against NATO Standardization?. National Security Affairs Monograph Series 80-5 (Washington, D.C.: National Defense University, May 1980), p. 82.
- 251 Ibid., p. 83.
- 252 House Armed Services Committee, Report on NATO Standardization, p. 19.
- 253 Ibid.
- 254 The MAG-58 case is a good example; had A-109 been in operation, the opponents of the MAG-58 purchase would have had a stronger legal case.
- 255 House Armed Services Committee, Report on NATO Standardization, p. 19.
- 256 House Appropriations Committee, Report on the Department of Defense Appropriation Bill, 1980, pp. 274-275.
- 257 James, "Standardization and Common Production of Weapons in NATO," p. 24.
- 258 Buchan, "The Implications of A European System for Defense Technology," p. 14.
- 259 Rudi Meller, "Pentagon Endorses Family of Weapons Concept," International Defense Review 12(5/1979), p. 702.
- 260 Ibid., p. 703.
- 261 U.S., Congress, Senate, Committee on Armed Services, Department of Defense Authorization for Appropriations for Fiscal Year 1980, Hearings before the Committee on Armed Services, United States Senate on S. 428, 96th Cong., 1st Sess., part 6, April 4, 1979, p. 3228.

- 262 Ibid., p. 3254.
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- 265 House Armed Services Committee, Report on NATO Standardiza-
tion, p. 27.
- 266 Ibid., p. 28.
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- 268 Ibid.
- 269 Malone, Roland, p. 82.
- 270 Ibid., pp. 88-89.
- 271 Cornford, "European Equipment Cooperation," p. 48.
- 272 Department of Defense, Rationalization/Standardization Within
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- 273 House Armed Services Committee, Report on NATO Standardiza-
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- 274 Library of Congress, NATO Standardization, pp. 38-39.
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CHAPTER VI

THE XM-1/LEOPARD TANK

Introduction to Case Studies

Four recent standardization cases illustrate quite effectively the varying approaches discussed in the previous chapters. They also illustrate areas in which standardization may be successful as well as those in which it will continue to fail and clarify why. One of the cases, standardization of the NATO Main Battle Tank (MBT), is a clear failure (in spite of last minute attempts to salve over the wounds); two others (the U.S. purchase of the Belgian Machine Gun, the MAG-58, and the U.S. licensing of the French-German air defense missile, the Roland) are touted as successes. In fact, however, they are not quite the successes, either economically or militarily, that they, on first glance, appear to be. The reasons will become clear as the following case studies are developed. A fourth case study, dealing with policy language, illustrates, in general terms, the problems standardization faces.

The case studies are of a narrative nature with analysis tied to the theoretical and evaluative framework developed earlier. An attempt is made to develop common threads through all four which can later be used for evaluating, on both a theoretical and a practical level, the chances for success in standardization. The sensitivity of several of the issue areas, due to both the international

diplomatic imperatives as well as the industrial "competition-sensitive" nature of the projects, makes it difficult to get behind the scene in much more detail than "open-source." Most of the interview data were "not for attribution." Further, sources are often contradictory. As a result, occasionally the analysis may border on speculation, especially as to motives. Nevertheless, I am confident that a fairly accurate representation does emerge, both with respect to actual description and facts and as to motivation driving the actions.

The first case study is the most interesting, if only due to its long history. Attempts to standardize a NATO tank go back to 1956. Yet today we are not closer, and in many ways are more destandard than in the late 1950s. The tank case illustrates both the competitive-development with licensed-production and the cooperative-development approaches to standardization. The second study, dealing with the Roland missile (purchased by the U.S. from France and Germany), illustrates the straight licensed-production approach. The third case, the MAG-58, is an example of a direct-purchase (eventually to be licensed production). The fourth case study documents efforts at a policy level to modify or overturn some of the legal hurdles to standardization--specifically, the specialty metals clause of the "Buy National" clause in the Appropriation Acts--and illustrates, as did the battle over the original standardization policy language, institutional and personal resistance to standardization.

The XM-1/Leopard II TankIntroduction

On August 10, 1976 Representative Samuel Stratton (D-NY) initiated a series of hearings to challenge the Department of Defense's decision to seek commonality between the German Leopard tank and the United States' XM-1. As Mr. Stratton noted:

Our first program to develop a new Army tank, the MBT-70, was initiated in August 1963 and terminated in January 1970. That program, incidentally, was a joint effort with the Federal Republic of Germany which, unfortunately, was not successful. Subsequently, the MBT-70 program evolved into the XM-803 program which was initiated in January 1970 and terminated in 1971. These programs simply produced eight prototype tanks and no operational tanks.

After this bitter experience, we initiated the XM-1 tank program--the current development program. At this point in time, therefore, we have invested over \$540 million in tank development programs, and at this moment have only two prototypes of the XM-1.¹

In fact, Stratton was incorrect. While he dated the first cooperative attempt by the United States and Germany to develop an Army tank to 1963, actual cooperative efforts began in 1957. The United States, Germany and France signed a tripartite agreement which was aimed at developing a common tank. This agreement fell apart almost immediately on the rocky roads of differing concepts of the role of the tank in combat and of national pride. As a result, the United States pursued development of the M-60, France developed the AMX-30 and Germany built the first of its Leopard series. Britain, not a party to the agreement, was developing its Chieftan. By the mid-1960s, NATO had at least four non-standard tanks.²

While the United States did get a tank out of the first agreement, it was not a common one. And now, over twenty years and three standardization agreements later, no standard NATO tank is yet in sight. And, even more amazing, as Stratton noted, thirteen years after the United States began trying to develop a follow-on to the M-60 (both cooperatively and on its own) it was not even near the operational stage with a new tank.

Thus, the most recent tank procurement, originally proclaimed as the golden opportunity to test the waters of standardization and later (when failure became inevitable) rationalized as not a good test of political willingness to standardize because the effort was started too late in the development program,³ was not, in fact, a new or unique issue. Attempts by some proponents of standardization to argue that it was not a fair test ignore the larger picture; i.e., that the most recent battle is part of a long term effort (over twenty years) to standardize on a common NATO Main Battle Tank (MBT). In this light, the results of the MBT-70 cooperative development program and the XM-1/Leopard II competitive development take on added meaning and are relevant to understanding the problem of standardizing (at least one category) weapon systems in NATO.

Issues

A number of issues recur throughout this evaluation of tank standardization. First, of course, is that of national pride. Clear

throughout is the unwillingness of any Army to purchase a major system (such as a tank) from another country--even a close ally. This reluctance, on the basis of national pride, is only part of the broader resistance emerging from industry and Congress. Nevertheless, the Army does exhibit a clear case of the "Not-Invented-Here" syndrome, which the other sources of opposition reinforce.

A second issue involves military considerations. A key military consideration is the problem of spare parts. While licensed-production (in the United States) would largely resolve this problem, this fact seems lost in the emotional aura surrounding the idea of a "foreign" tank. Even more important is the problem of doctrine. Tanks incorporate three features: mobility, firepower and protection. Considerations of cost and weight generally require tradeoffs between these three features, making the design process a zero-sum game--emphasis on one means at least one of the others will suffer. The United States has stressed, in its tank doctrine, first, protection of crews; second, mobility; and third, firepower (size of gun). The Germans, on the other hand, reverse these features, stressing first, firepower; second, mobility; and third, survivability. The British pursue still different priorities (although they are roughly similar to the United States).⁴ Care should be taken in analyzing the effect or importance of these priorities, however, as the differences are not clear cut as they might appear. For example, crew protection and survival are important to both--what differs is how they seek to

achieve it. The Germans see a big gun and mobility as assuring survival; the United States and Britain seek to assure survival via armor and mobility. The United States emphasis on armor for protection means more weight on the body; the German emphasis on a gun for protection results in a heavier gun. The difference then, to an extent, is on the means to the end, rather than on the end itself.

A related issue, however, is the question of whether doctrine drives technology or if the reverse is true. For example, the British have a clear lead in armor technology and thus seek to assure survival via armor. On the other hand, the German Leopard was built without benefit of the technology to guarantee survival via armor so other means were substituted. Thus, while doctrine is clearly a factor, care must be taken to avoid blindly faulting it and failing to appreciate other factors (e.g., technology) which might be driving doctrine itself.

A final issue is the separation of military from political goals. In theory, military effectiveness is the ultimate goal of standardization. Yet, if the United States goes ahead and decides to put a German 120mm gun on later production models of the XM-1 (as now planned), the XM-1 will not be standard (with respect to the gun) with a large percentage of the rest of NATO, including most of its own tanks (including, possibly, many of the early XM-1s)! Desires of some in the United States to show progress in standardization at any cost appear to have been driven solely by the idea of

appearances rather than by the realities of the military situation. Likewise, as was suggested by some Congressional staffers, the original German decision to put the 120 mm gun on their Leopard II (the Leopard I had a 105 mm gun) was driven more by the need to have some major change to sell the tank to the Bundestag than because it brought any major improvement on the battlefield.⁵

The Main Battle Tank-70 (MBT-70)

Coming off the failure of early standardization attempts, the United States and Germany, apparently looking to cooperate on current tank development and procurement, but also to designing and building a follow-on to the M-60 and Leopard I, signed an agreement in 1963 calling for the joint development of a single, common MBT for the 1970s.

The MBT-70 was to be designed to meet the challenge of the Soviet's modern tank development; current United States and other NATO tanks were based on technology of the early and mid-1950s. The MBT-70 was to incorporate as well as push the technology of the 1960s into the 1970s.⁶

In a very short time the initial agreement calling for complete joint development broke down and the two countries (on August 1, 1963) moved to a program of modified joint development: "Parallel development and test model construction went forward in both countries; with each working exclusively on certain components."⁷ A single design concept was agreed upon by May 1965 and

national responsibilities for subsystem-component development were assigned. At this, McNamara noted his pleasure:

I am interested in this particular project because I am convinced that joint development efforts of this sort with our NATO allies are important and can be highly beneficial to all concerned. The pooling of ideas and the sharing of costs should make for a better end product at lower expense. Identical items of equipment in our inventories simplify maintenance and support problems and exemplify that cooperation which is essential to NATO's success.⁸

The rest of the history of the MBT-70 was less glowing as problems began to surface which would, by 1970, lead to scuttling of the program.

Before looking at specific problem areas, however, a brief review of what the MBT-70 was to look like is useful. Essentially, the tank was to push the frontiers of development at all levels. A 1500 horse-power engine would propel the tank at 40 mph cross-country. A unique suspension system would allow the tank to be lowered or raised about 18"; down for protection and up to fire as well as keep it constantly level to increase firing accuracy. The gun, a 152 mm gun/launcher, was to fire conventional rounds, but would also take advantage of the growing interest in guided missiles. The gun was to be equipped with an automatic loader which minimized the size of the crew (to three). The crew was to be protected from both chemical and biological warfare (CBW) and nuclear fallout with its independent oxygen supply. While a number of problems independent of these complex design requirements plagued development, the complexity of the tank and the problems

inherent in pushing the state-of-the-art provided more opportunities for other factors to emerge and germinate.

Problems with the MBT-70. A basic problem from the start was the United States Army's disagreement with the Germans on requirements. The inability to agree on requirements, aside from the issue of whether the requirements were valid in themselves (as is also open to challenge) was to constantly plague development. As one of the MBT United States program managers noted:

The strategic objective of the FRG and the United States were different. The United States needed a tank that could fight above the Arctic Circle, on the Equator, and in between with all the implications on cost and time of developing such a tank. The FRG, whose strategy is a defensive one around the heartland of Europe, did not have the requirement for these temperature extremes and therefore, was not enthusiastic about spending money on some of the United States requirements, such as maintaining full engine power at 125°F.⁹

Other design requirement problems developed over the gun versus missile issue. While the United States pushed and won agreement to include the joint gun/missile tube on the MBT-70, the Germans were never happy with this compromise and continued to fight it. In fact, in one illustration of the divergence which began to emerge, multi-national development of components which had previously been assigned to one country or the other began to occur. The Germans, for example, were allowed to pursue unilateral development of an independent 120 mm gun turret for possible use on their MBT-70 (clearly destandardizing).¹⁰

Weight was another problem. The United States was satisfied

with the weight (approximately 55 tons); the Germans were, however, not satisfied. It was, they claimed, too heavy for most German bridges.¹¹ Consistent with their priority on mobility over protection (armor), they were willing to sacrifice protection (especially nuclear) for less weight (and increased mobility).¹²

The constant compromises required by failure (or inability) to agree on requirements continued to push the cost of the tank:

German priorities implied a vehicle concept having a high mobility, a conventional gun armament, high nuclear protection but low protection against conventional attack. United States performance goals implied a vehicle concept with more modest mobility, a missile-type armament, low nuclear protection, and high protection against attack by conventional projectiles. The jointly approved characteristics were for a vehicle which would provide high mobility, provide the firepower of both gun and missile, and include both high nuclear protection and high protection against conventional attack.¹³

While general agreement had existed early on as to broad requirements, it was not possible to translate these into specific features. As development progressed, differences emerged and each clash had to be resolved within the framework of the original broad agreement. The resulting compromises, designed to satisfy both partners, tended to (as noted above) the exotic, increasing both complexity of the final product and its cost.¹⁴

Finally, complications emerged in the management of the program, both within each country and cross-nationally. Differing traditions of economic enterprise in the United States and Germany led to problems. The need to create an encompassing corporation, the German Development Corporation (GDC), to serve the function of a

single manager (there being no German company large enough to handle the workload) caused serious management problems with respect to internal coordination for the Germans. Problems of autonomy and shared authority between the artificial GDC and its members and the added problem of cross-Atlantic cooperation were, in the view of the first German Program Manager, the key problems in cooperative efforts, and were virtually unsolvable.¹⁵

In the United States, in spite of previous experience with the program management concept (which incidentally, the Germans had never had), General Motors, the United States' contractor, refused to modify their internal organization to accommodate the government, ostensibly, because of the problems they associated with government contracts. Only after the joint development program ended and the emphasis had shifted to a modified form of cooperation did General Motors accommodate the government. According to General Luczak, the Army Program Manager, General Motors benefited from the modified contract and only then would accept the added responsibilities of a prime contractor. Accordingly, "things got better."¹⁶

Among other problems Johnstone notes were those of metric versus nonmetric measurement and parts (and the discovery that even metric standards were not standard within Europe!), different traditions in the United States and Germany concerning rights and patents, and different tax liabilities. Additional problems emerged as each nation pursued back-up development of key components. For example, while the United States was originally to provide the

engine and Germany the transmission, each produced backups of the others. As development progressed, it became tempting for the United States to use its backup transmission which was, naturally, more compatible with its engine than was Germany's transmission--the same was true for Germany.¹⁷

The result of these problems was both slippage in the schedule (of at least five years) and rapidly expanding costs. By this time the large cost increases had attracted Congressional interest (generally hostile).¹⁸ These cost increases were largely blamed on the joint development program. Johnstone notes, as do others, that any project, especially one which pushes the state-of-the-art, will have significant cost increases--he quotes the last program manager who, while attributing a "substantial" portion of the cost increases to the joint development program, nevertheless noted that the bulk was due to premature and overly optimistic cost and performance estimates, galloping inflation and development problems.¹⁹ While agreeing that it is difficult to attribute cost accurately, it must be admitted that many of the development problems were due to pushing of the state-of-the-art in a situation where it was not possible to agree on common requirements and, as an unfortunate but understandable result, sophisticated systems which met both nation's requirements developed.²⁰ The cost rose, by March of 1968, from a proposed Research and Development cost of \$80 million to a new total of \$303 million.²¹ Cost per unit rose from \$600,000 to over \$1 million. In addition, the United States

and German split, originally set at 50/50 shifted to 80/20 as the Germans decided to purchase fewer tanks because of the rising costs.²² An attempt to kill the program in Congress was beaten back in 1979 in a compromise calling on the General Accounting Office to evaluate the program.²³ Nevertheless, by the end of the year, the program was dead. In testimony before the House Defense Appropriations Subcommittee, Secretary of Defense Melvin Laird noted that both the United States and Germany were considering moving to building the weapon on their own. He anticipated "redirecting the MBT-70 toward an austere configuration" and directing ". . . the Army to provide a new program" The decision came in January 1970 when Deputy Secretary of Defense David Packard announced a (further) modified bi-national MBT program.²⁴ The press release noted:

The modified bi-national MBT program involves some revision of the joint development relationship through which the United States and the Federal Republic of Germany have worked on this tank since 1963. Each country will now assume unilateral technical decisions and unilateral funding, while continuing to cooperate to achieve a measure of commonality in the future tank programs of the two countries. Exchange of information and support will continue, but from now on each country will unilaterally fund materials and services which it requests from the other country.²⁵

The agreement to pursue cooperative development, however, was political dressing which payed only lip service to a joint program; the joint program was effectively dead.²⁶ The Germans soon began development of the Leopard follow-on, the Leopard II and the United States pursued the austere MBT-70/XM 803.²⁷

A cost limit of \$600,000 was set on the new United States tank.

Apparently, however, the XM-803 was linked so closely to the MBT-70 program that it was not possible to control costs--per unit cost soon approached \$1 million. After a controversial series of hearings, the program was killed in December of 1971.²⁸ At the same time, however, Congress allocated \$40 million for the initiation of prototype development of a new tank which was to be held to a per unit cost of \$500,000. In specifying that the MBT-70 was not to be one of the competitors Congress implied both dissatisfaction with the cooperative program and its costs.²⁹

Thus ended an expensive, and as Stratton noted, unsuccessful attempt at developing a United States/NATO battle tank. The sunk costs associated with the MBT-70/XM-803 have been estimated at between \$100 million to \$500 million.³⁰ In spite of this, no tank was on the horizon and estimates were that at least ten years would be required for development of a new tank.

In summary, what emerged from the first major attempt at standardizing a weapon system in NATO was a very expensive program with, ultimately, nothing to show for the money. This was the background with which Congress (and especially, Mr. Stratton) would approach the next attempt to standardize.

What is not clear from this segment of the tank case study is whether the limitations on cooperative development are technical and hence resolvable (or at least above-board; e.g., technical issues, differences in doctrine, incompatible industrial approaches, etc.) or

if they are political and emerge because they are exploited by domestic groups in each country who, for a variety of reasons, are opposed to the cooperative venture.

This implies the existence of a complex interaction of cultural-technological, economic and political limits on cooperation.³¹ However, this does not answer the question of whether standardization is possible. It would seem that there are ways around the first group of issues whereas the latter group may be less tractable. The XM-1 case is an ideal arena within which to test this, for the experience in the MBT-70 project should have been available as a guide to avoid the earlier group of issues. If the same problems emerge, it may be because political opportunists are exploiting and preventing resolution of essentially technical issues for political reasons.

The XM-1: January 1972 to the MOU
with Germany, December 1974*

The XM-1 was designed as a state-of-art vehicle, to be built-to-cost (i.e., to take advantage of current technology to achieve desired requirements but with tradeoffs among requirements permitted to keep within set cost). A design team of 33 men was put together at Ft. Knox, Kentucky to define the "minimum essential" and "maximum desirable" requirements.³² Prototypes were then to be

*To aid the reader in sorting out the complexities of the XM-1 case, a brief chronology of significant events surrounding the XM-1 can be found at Appendix 3.

developed by the two prime competing contractors (General Motors who, incidentally, also held, until it was cancelled, the MBT-70/XM-803 contract, and Chrysler, contractor for the current line M-60. Ford declined to compete given the greater experience of the other two in the tank business).³³ A final prototype was to be chosen and contractor selected based on competition between the two prototypes.³⁴

The guidance team operated under the guidelines of "simplicity and reliability."³⁵ Among the goals of the group were a tank with speeds of up to 50 mph on roads and 25-32 mph cruising speed cross-country. The gun was to be a conventional type (no missile as with the MBT-70) with a caliber between 105 and 120 mm.³⁶ Trilateral development of a common gun was also suggested.³⁷ A maximum weight of 54 tons with a per unit cost of \$500,000 (in constant 1972 dollars) was the goal. The silhouette of the tank was to be lowered from 120 to 95 inches and an improved armor was to be added. The powertrain was to be a 1500 horsepower engine.³⁸

The tank-force recommendations were approved in January of 1973 and Brigadier General Robert Baer named production manager for the Army. Prototype development and testing was to be completed in roughly three years. February, 1976 was later set as competition date with results to be announced in July of 1976, with the winner then being awarded a four year advanced development contract. A production decision would come within seven years,³⁹ or by May of 1980.

Besides promoting the new tank itself, the Army at this point was going to great lengths to reaffirm the Army's faith in the tank as a member of the combined arms team in cooperation with helicopters and infantry.⁴⁰ Challenges to the tank as an anachronism were frequent during the House and Senate hearings on the MBT-70/XM-803 and the Army was anxious to defend its decision to stick with the tank in light of this growing criticism.⁴¹

The development went fairly smooth for the first several years. Some questions did arise with respect to cost which cast some early shadows on the project. In spite of Army claims that the tank was coming in at roughly \$500,000, Representative Les Aspin (D-WI) charged in July of 1973 that the tank was going to cost up to \$1 million per unit. The Army objected, of course, to Aspin's inclusion of research and development (R&D) costs in the unit price. On the other hand, the Army admitted that its \$500,000 price tag was for an empty tank and that the price with "government supplied equipment," (i.e., guns, computers and electronic devices) would raise the price to \$784,000.⁴² No serious repercussions developed as a result of these revelations however, and the program went ahead on schedule and on cost (as the Army defined it). General Motors chose to stick with a proven concept for its engine, a 1500 horsepower diesel engine, while Chrysler was working on a similar size gas turbine engine.⁴³ As late as August 1974 no decision had been made on a gun.⁴⁴

The only challenges to the XM-1 were several feelers in 1973

from West Germany, in which the Germans submitted a proposal to the Department of Defense (DOD) that its Leopard be produced in the United States under license (probably by Ford Motor Company), adopted by the United States forces and used as the NATO tank.⁴⁵ Initial United States reaction (especially from the Army) to this proposal was cool. The Leopard II was rejected as "unresponsive to the XM-1 requirement."⁴⁶ This rejection was apparently based on an incompatible ranking of requirements by the United States and Germany. The Leopard II could not, the Army argued, be reconfigured for the exotic new British-developed armor which the XM-1 was to carry. Nor did the Germans want it reconfigured. As discussed earlier, they sought to achieve protection via firepower and mobility plus a low silhouette.⁴⁷ Thus an early attempt to merge the XM-1/Leopard II programs was short lived. How much of the death was due to valid technical reasons and how much was political (and how much of that was based on the recent and painful experience with the MBT-70) is difficult to say. Yet it is clear that the Army was not about to open the door to any external challenge to the development of a United States Main Battle Tank, having revived it as an independent program.⁴⁸ In light of future events, it is interesting to note that the Army's decision not to go with the Leopard II and their opposition to it had originally surfaced as early as 1973.⁴⁹ It is also clear that the Army's requirements were designed to ensure that a United States tank would result; this was to be expected from a requirements board staffed entirely with United States Army personnel.

December 1974 (MOU) to August 1976
(Addendum to MOU)

On December 11, 1974 General John R. Deane, Jr., Assistant Chief of Staff of the Army for Research and Development signed a Memorandum of Understanding which earlier had been signed by his German equivalent (on November 27, 1974). Under this MOU, the United States and Germany agreed ". . . to make a reasonable effort to achieve maximum standardization of the combat tank XM-1 and the combat tank Leopard II" ⁵⁰ Standardization of the two tanks was to be achieved by including the German Leopard II tank, now well into its development stage (the Germans proceeded right into the Leopard II program after the MBT-70 fell apart in early 1970) in the competitive testing between the two United States prototypes.

The Leopard II was a modification of the German's successful Leopard I. ⁵¹ The major improvement involved upgrading of the tank gun from a 105 mm to a 120 mm smooth-bore gun. ⁵² In most respects, the Leopard II appeared to be roughly equivalent to the United States' XM-1 tank under development (although this appraisal certainly was to be subject of significant debate over the next several years).

Apparently the impetus for the MOU came from the United States, ⁵³ but from the DOD level, not, certainly, from any lower level. ⁵⁴ The initiative should be considered in the context of the times. As noted in Chapter IV, 1974 was the beginning of efforts in the Senate and from civilian sources (Callaghan via his State

Department exposure) as well as from the White House to seek cost- and military-efficiencies in NATO. The two-way street, the means the United States would eventually chose to show her commitment to standardization was fast becoming a popular password in two key weapon systems, the F-16 and the AWACS, or Airborne Warning and Control System, both very prestigious (to DOD) and very expensive. United States willingness to consider a European system as a competitor for her tank purchase would strengthen the United States' position in negotiations on the F-16 and AWACS.⁵⁵ These concerns, in light of Germany's earlier expressed interest in joining the competition made the tank program, in DOD eyes, an excellent opportunity to make what many in DOD apparently hoped would be more than a token gesture.

The competition was to take place starting in September of 1976 and was to be "to the same ground rules and constraints established for the XM-1."⁵⁶ The original MOU specified that all three prototypes would be tested "in the same time frame" but this phrase, the significance of which will be clear later, was deleted by General Deane, apparently after the Germans had signed the MOU.⁵⁷ It is significant also that nowhere in the MOU was there any commitment on the part of either side to purchase the other's system, regardless of the outcome of the tests! The MOU states merely that the "USDA [United States Department of the Army] confirms its intention to test a Leopard II . . . and include it in a comparative test and evaluation."⁵⁸ This is in contrast to

popular conceptions at that time, nurtured by proponents of standardization that the MOU was an explicit agreement by both sides to purchase the winner.⁵⁹ This misconception was widespread well into 1977. On the other hand, opponents of standardization sought to emphasize that Germany had made no promise of any nature (which was clearly the case) yet continued to nurture the perception that the United States was committed to purchasing the winning tank!⁶⁰

The first formal "commitment" came from the Secretary of the Army, Martin R. Hoffmann, on February 12, 1976 when he stated that,

. . . if the Leopard proves the superior tank and is cost effective in terms of producibility in terms of its utility on the battlefield we want the best equipment for our soldiers that we can get and find and we will in fact pick that tank should it come out that way. There is no commitment to do that but we have indicated that is our philosophy/policy and that will be the result should it come to pass.⁶¹

Even this commitment was soon qualified, significantly it turns out, by a requirement that the German tank be "clearly superior,"⁶² a possibility which was highly unlikely given the relatively similar time frame of their development and the (albeit limited) cooperation which went into this development. If this qualification was insufficient in itself, the fact that both tanks were to be tested to United States criteria certainly guaranteed that any tank not developed to these criteria would not be selected.⁶³

Nevertheless, the die was cast and expectations, deservedly or not, were high, especially in Germany, that the one-way street finally had a chance of becoming a two-way street.

The Fight

Having lost the first round of the battle, some elements of the Army turned now to efforts to defeat selection of the Leopard II. Initial challenges were to the armor protection (too light) and to the cost (too high).⁶⁴ Initial estimates were that the German tank would cost in excess of \$1 million. While it appears clear that the German tank would be somewhat more expensive than the United States' tank, exactly how much more is confusing due to the lack of agreement on how to compute cost.⁶⁵ Further, challenges were beginning to emerge (again) to the cost of the XM-1 as Senator Eagleton (D-MO) once again joined the fight. As he noted in calling for a GAO study:⁶⁶

Estimated cost of the XM-1 program is \$6.2 billion, up 31% from a previous estimate of \$4.3 billion. Program acquisition costs have gone from \$701,000 in FY 1972 to \$1,287,000 in FY 1974 with unit production cost put at \$507,000 (FY 1972 dollars) for 3312 tanks, and an overall cost per tank of \$1.9 million.⁶⁷

How these costs compared with the Leopard was never made clear as the Army continued to stick with the \$500,000 XM-1 figure in most of its testimony. Senator Eagleton, who had helped kill the MBT-70 as it ran into cost overruns, also asked the GAO to evaluate the adequacy of the Army's effort to consider alternative tanks and to look into the feasibility of producing the Leopard II in the United States.⁶⁸ The GAO study was released on July 22, 1976 and was generally critical of the entire tank program. A summary of the GAO report will be included later in this chapter.

The next several months witnessed a tremendous amount of political maneuvering in the press, in the Pentagon and in Congress between the opponents and proponents of standardization. The maneuvering clearly fits the high-low dichotomy suggested in earlier chapters. Those for whom the issues assumed a strategic perspective (generally at the DOD level and in the Senate Armed Services Committee) were pushing for a fair competition between the two tanks while those for whom the issue was a structural one, (the Army, especially the Armor branches, the House Armed Services Committee, especially the Investigations Subcommittee where a sympathetic Congressman Stratton sat, and industry) pursued a number of ploys to avoid or downgrade the possibility that the German tank would be selected. For this later group, although diplomatic considerations, for the most part, precluded open opposition,⁶⁹ a clear pattern of cooperation in hindering the competition emerges.

The contracts for the XM-1 with Chrysler and GM called for prototypes to be available for test by early February 1976. The MOU of December, however, did not call for the Leopard II to be available until September 1, 1976. The original concept for the competition had, as noted earlier, called for a simultaneous testing of the prototypes--the Army had, however, deleted this requirement from the MOU with the Germans when they discovered the German tank would not be ready until September, rather than February as originally planned (incidentally, very little debate surrounded this decision). The Army apparently presented the

relatively disorganized (at that time) proponents of standardization with a fait accompli. The question of what to do with the XM-1 prototypes over the intervening eight months was seized by opponents as an ideal opportunity to, de facto, phase the Leopard II out of competition before someone in DOD actually forced them into a corner during the evaluation of the Leopard II and made them buy it. The Army decided not only to hold to the original planned test schedule but also to award a final contract and to go into Full Scale Engineering Development (FSED) of the XM-1 on schedule.⁷⁰ It is interesting to note that this plan received no scrutiny in the House Armed Services Committee hearings on the FY 1976 Authorization Bill. It was not until the Senate Armed Services Committee began their hearings that the implications of this decision were brought to light.⁷¹

The entire tone of the Army witnesses during the 1975 hearings (on the FY 1976 budget) was negative with respect to the Leopard, if in fact, the competition was even acknowledged. The XM-1 was implicitly considered the United States' tank of the future.⁷² At one point, in fact, General Cooksey stated quite clearly that he did not anticipate the Leopard II being chosen, this in February of 1975 with the evaluation still over a year away.⁷³ The Army tactic was to follow the schedule for the XM-1 paying only lip service to the impending competition,⁷⁴ continually emphasizing the higher cost and expected lower capability of the Leopard II.⁷⁵

The Senate Armed Services Committee, however, challenged

the Army, eventually deleted the funds for the Full Scale Engineering Development and recommended to the full Senate (which they accepted) that the Army keep both of the United States tanks alive and not make a source selection until the Leopard was included in a joint test.⁷⁶ While the Army paid lip service to the Senate Armed Services Committee's desire to seek standardization⁷⁷ it proceeded to undercut the Senate action by shifting pressure back to the House Armed Services Committee, where, incidentally, Secretary of Defense James Schlesinger supported the Army in requesting House support in overturning the Senate reduction in conference.⁷⁸ The House did, indeed, win this action and the Army was given the go-ahead to pursue single source selection and FSED before the Leopard II ever entered the competition.⁷⁹

However, the Army ran into a second challenge to their plans, this time in the House Appropriations Committee. The House Appropriations Committee recommended a modification in the Army's plan--approving the completion of the United States' runoff but deleting funds for the award of a FSED contract until after competition between the Leopard II and the United States winner had been completed.⁸⁰ The Senate Appropriations Committee was more sympathetic to the Army's plight⁸¹ and replaced the money.⁸² While this reversal of roles seems to contradict the subgovernment thesis, this is not necessarily true--the subgovernment relations are much stronger in the Authorization Committees.⁸³ The Appropriation Committees seem to march to different drums. The House Committee appears to have

been driven to a significant degree by the desire to save money⁸⁴ and, in spite of delaying the FSED, the questioning in the House Appropriations Subcommittee was generally friendly to the Army's position.⁸⁵ More surprisingly, interviews with Senate Appropriation Committee staffers indicated a much more hostile attitude from elements in that committee towards the entire standardization issue than one would expect. Apparently, the cost issue (a low consideration) was dominant in that committee.

The Senate won the battle in conference and the money remained in the FY 1976 budget, authorizing the Army to award the FSED contract, thereby selecting a winner between the two United States prototypes and beginning development of a winner before even evaluating the German Leopard II.⁸⁶

The Army thus won the first skirmish in its battle to knock the Leopard II out of consideration. The major conflict took place in the authorizing cycle and was a clear case of structural versus strategic politics, resolved in favor of domestic concerns.

The German response to the decision to go ahead with source selection was quite bitter as both official and unofficial charges emerged challenging the United States' sincerity and fairness. Senator Eagleton released several letters written by Hans L. Eberhard, Director of Research in the West German Defense Ministry to Malcolm R. Currie, Director of Defense Research and Engineering (DDR&E) in the DOD. Essentially Eberhard complained that the Army was:

. . . entering into premature contractual and financial commitments that might make it impossible for the German tank to be judged 'without any reservations and in a fair manner.'⁸⁷

It was obvious that the Germans saw the intense Army lobbying as well as statements such as that attributed to Norman Augustine in which he argued that the United States development program "should not have to stop until the other guy can catch up,"⁸⁸ as indicative of a clear lack of Army interest in testing fairly the Leopard II. Quite correctly, they realized that the additional sunk cost of approximately \$100 million resulting from the decision (to proceed with FSED) would make it highly unlikely that the United States would be able politically to reverse its course.⁸⁹

To reassure the Germans, Secretary of the Army Martin Hoffmann, on February 12, 1976, made the first public pledge by the Army to purchase the Leopard II, as noted earlier.⁹⁰ The Secretary, as noted above, was, however, vague as to what would happen if the two tanks were roughly equivalent. The concept of comparative evaluation, in this case seemed to mean, to him, seeking commonality on various subcomponents.⁹¹

Additional leaks, widely reported in the press, continued to keep the question of United States sincerity alive. An internal memo from Dr. Currie to the new Secretary of Defense, Donald Rumsfeld, in February of 1976 deepened German concern. Currie reportedly told Rumsfeld that "the realistic likelihood of the modified Leopard II being desirable for adoption by the United States is considered low."⁹² The battle grew warmer (and larger)

with testimony before the Senate Armed Services Committee by Karl Damm, a Christian Democrat Member of Parliament and Chairman of the North Atlantic Assembly's Subcommittee on European Defense Cooperation. Although speaking unofficially⁹³ Damm, in addressing the United States' interest in German and NATO procurement of the expensive AWACS, warned that:

To speak quite frankly, . . . I personally do not see any possibility for the Federal Republic of Germany to take part in the AWACS program unless the United States of America spends a corresponding amount on German tanks. This would be a fair deal, a two-way street."⁹⁴

At this point, the Army began to circle the wagons.⁹⁵ Pressure from industry mounted, both public and private. AVCO-Lycoming Division, developer of the Chrysler tank's turbine engine issued a press release in June or July of 1976 noting that "approximately \$60 million more a year in new business would be pumped into the Connecticut economy," if the XM-1 were built.⁹⁶ Private correspondence between high industrial levels and high DOD/Congressional levels was also floating around at this time. And the Army began to note openly and in press statements the qualification to Hoffmann's commitment to buy the Leopard II,⁹⁷ that the United States was willing to purchase the Leopard II only if it proved to be "clearly superior" and of "comparable cost."⁹⁸

Further confusing the issue was the fact that even if the Leopard II were chosen, it was to have been produced in the United States under license. During the preceding debate, a United States company, FMC Corporation, was performing an evaluation to

determine costs and feasibility of United States production, an evaluation which was to play a part, supposedly, in the final decision.⁹⁹ The issue was, thus, broader than a purely economic issue,¹⁰⁰ and revolved, probably, around issues such as national pride and institutional essence.¹⁰¹ Additionally, the Army and United States contractors clearly did not want the extra problems and inevitable delays which adopting a foreign system to United States production would entail¹⁰² and which had plagued the now twenty year history of tank cooperation.

The Army was clearly concerned with countering growing pressure on the impending evaluation and was seeking to lay groundwork which would avoid their being trapped into giving the Leopard II more consideration than absolutely necessary. The Authorization Hearings for FY 1977 reflect this concern. Secretary of the Army Hoffmann, responding to friendly questioning in hearings before the House Armed Services Committee clearly indicated the hurdles which the Leopard II faced:

If the Leopard emerges better on a total program analysis basis, in other words, not only tank performance and durability and serviceability and the like, but producibility, and chiefly cost-effectiveness--if it proves a better article at the price for meeting our full requirements, which are different from the German requirements, we have said we want the best equipment we can get for our forces and we would select that tank.¹⁰³

Frequent note was made in these hearings and in 1975 of the fact that the Leopard II which was to be tested was a significantly modified (to United States requirements) version of the German's regular Leopard II. The arguments ran along standardization lines:

If it wasn't like theirs, then why buy it. Also this called into question the validity of the competition, since the test model of the Leopard II was a highly modified and hence, untested version of their development model.¹⁰⁴ Much attention was also directed by the Army to the broader arena which the United States was designing for. Secretary Hoffmann, in the House Armed Services Committee hearings pointed out that:

Our feeling has been that because of the different requirements for which those two tanks were designed, we have a broader requirement, both in terms of temperatures, different fighting conditions, and the like than the Germans do. They are having to modify their tank to meet those requirements.

So, I don't think the degree of optimism that the Leopard would meet the rigors of that overall program competition are very high.¹⁰⁵

Yet, testimony the previous year by General Weyand, Army Chief of Staff, noted that the XM-1 was ". . . intended only for the European units . . .".¹⁰⁶ This would seem to indicate, as several Congressional staffers noted, that parts of the requirements argument were purely politically motivated.

In the same testimony, in an attempt to back away from the commitment he made earlier, Secretary Hoffmann stressed that the original concept in the MOU was not competition, but rather cooperation in developing common items:

The XM-1 MOU we discussed points not at accommodating standardization in terms of an overall end item in tanks immediately, but working toward such things as interoperability, interchange of fire direction systems, range finders, and the like.¹⁰⁷

This is clearly a distorted interpretation of a document which states that the United States and Germany will "make all reasonable efforts to achieve maximum standardization of the . . ." tanks.¹⁰⁸ Yet Hoffmann's interpretation was accepted without challenge by the House Armed Services Committee.¹⁰⁹

John Ford, Staff Director of the House Armed Services Committee, echoed the Army position, arguing that the Germans had no intention of buying the XM-1 and were being much more realistic in their approach, i.e., one of harmonization at maximum. He provided the Army a beautiful opportunity to show that it was the United States which was going out of its way to cooperate and that, if the cooperation failed, the Germans ought to bear the blame, an astute political maneuver on his part (and on the Army's?).¹¹⁰ His questions, submitted to the Army for a response, are illuminating:

Mr. Ford. Mr. Brownman, has the FRG agreed to purchase the winner of XM-1 competition?

Mr. Brownman. No, there is no such commitment. In fact, as mentioned in earlier testimony, there is no commitment within the current MOU on the part of either Government to adopt the tank of the other country based upon the test and evaluation. The Army has, on several occasions, announced to the FRG its intentions in the event the Leopard II (AV) proves to be a clearly superior design and of comparable cost considering all factors. The Army would be prepared to recommend adoption of the Leopard design for completion of development and production in the U.S. This is in keeping with our overall objective of providing our soldier with the most cost-effective equipment available. In spite of requests for a similar commitment by the FRG towards the XM-1 design, no comment has been received.

Mr. Ford. Mr. Brownman, has the FRG stated whether it will procure for its own use the Leopard II (AV) being sent here for evaluation as a potential XM-1 contender?

Mr. Brownman. No, the FRG has not announced its plans in the event the Modified Leopard II design were adopted for U.S. development.

Mr. Ford. There have been some extremely confusing news articles on XM-1 recently, originating in Europe, or in interviews in the U.S. granted by European visitors. The following are to clarify possible misconceptions caused by those interviews:

A. Who decided, and when, to reorient the entire thrust of the XM-1 from a 'national main battle tank' development program following the disastrous MBT-70 project to a 'NATO main battle tank' competition? If at all?

B. Was the FRG ever invited to submit a tank design for possible U.S. procurement?

C. If not, what was the FRG invited to do? By whom and for what?

Mr. Brownman. I appreciate your concern over potential ramifications of the current XM-1 tank related international activities.

Although the Defense Department has been actively pursuing increased NATO standardization, extreme care has been exercised in formulation of all agreements to insure that the Tripartite Tank Armament Evaluation and the evaluation of the Leopard II will be accomplished in a manner which precludes disruptive delays in the XM-1 development program, but which give the Army the opportunity to assess fairly all potential candidates and possible main armaments. These programs were attractive to the Army in that they provided additional competition at relatively little cost and could possibly lead to additional NATO standardization.

The Memorandum of Understanding (MOU) signed in late 1974, concerning harmonization of the XM-1 tank and Leopard II tank, is not a reduction of the XM-1 program from a 'national' to a 'NATO' program. Quite to the contrary; the agreement is very limited. In this MOU, the U.S. and the FRG 'agree, within national requirements for the next generation of combat tanks, to make all reasonable efforts to achieve maximum standardization of the Combat Tank XM-1 and the Combat Tank Leopard II on the date of their introduction in the two armies.' Further, the U.S. has agreed to test the modified Leopard II to the same ground rules, specifications and constraints established for the XM-1 and include it in a competitive test and evaluation.

It is extremely important that the program not be misunderstood. There is no commitment on the part of either the U.S. or FRG to adopt the tank of the other country based upon those tests and evaluations. Another possibility is that the evaluation program may lead to some commonality in subsystems. As a part of the effort of the two countries to share tank technology it is likely, although not certain at this time, that the FRG will adopt a derivation of the XM-1 armor to provide improved ballistic protection. Such cross-flow of technical information between our two countries could lead to some interoperability in

subsystems, even if both countries do not agree on adoption of the same tank. It will also set the stage for increased international cooperation for a NATO standard tank for the next generation in the late 1980s or early 1990s.

The FRG was not invited to submit a tank design; however, the Leopard II was evaluated in detail as a potential candidate for the XM-1 requirement by the MBT Task Force in 1972. The Leopard II was rejected because of unacceptable manufacture risk, cost, schedule and survivability. The U.S. XM-1 prime contractors also examined foreign technology in the selection of their components.

In a September 1973 Secretary of Defense reply to Minister Leber's 20 August 1973 letter proposing the 'merging' of the XM-1 and the Leopard II programs utilizing an 'Americanized' Leopard II, the Secretary cited the Leopard II deficiencies and suggested that Leopard II might be modified to meet U.S. performance and cost constraints.¹¹¹

Other testimony by the Army talked past the issue of competition and considered the XM-1 as the Army system.¹¹² The House Armed Services Committee did not challenge these statements.

Testimony before the Senate Armed Services Committee was likewise cautious, with Senator Taft trying to pin the new Secretary of Defense, Donald Rumsfeld, down as to the purpose of the evaluation:

Senator Taft. But there is no question in this generation of tanks that we are going to go to Leopard II as the main battle tank for U.S. forces, is there?

Secretary Rumsfeld. I think what you will probably best do is to talk to Secretary Hoffmann and General Weyand when they come in the next day or two so there is no confusion as to terminology, but it is, as I understand it, the intention to have an evaluation of the Leopard prototype and the two U.S. prototypes on a careful basis.

Senator Taft. But what is the purpose of that? That is what I am asking. I want to know what the purpose of it is, whether it is to make a decision as to whether we order a Leopard II or XM-1, or whether the purpose of it is to see what systems within the weapon might best be suited to commonality, and which system is better for use, but not as to the basic vehicle.

Secretary Rumsfeld. I think the comparison should be described as multipurpose. The intention is to evaluate the three prototypes and their systems against a common measure. In other words, they are not going to be competing one against the other

as such, but against a standard base of comparison for the purpose of making the judgments as to cost and effectiveness, and then making judgments after that concerning the equipment that will be used.

Senator Taft. I still do not have an answer to the question, but I would defer it.¹¹³

Senator Culver, a strong proponent of standardization, pushed harder, but got no more clarification or commitment from the Secretary or the Chief of Staff:

Mr. Secretary, I would like you and General Brown to be afforded an opportunity to clarify the status of our XM-1/Leopard competition and procurement situation.

You responded in part to Senator Taft's inquiry earlier today on this subject and, as one who is very interested in that particular competition, I think it is very important that the record publicly be clear as to just what the U.S. commitments, obligations, and intentions are with regard to fulfilling our memorandum of understanding that the Army entered into with the Germans in December 1974.

As you know, we currently have the GM and Chrysler prototypes in competition, and we will make a decision on these in March, and it is my understanding that the Leopard will be ready next fall. It is further my understanding, even though you are asking for \$141 million now to start a procurement cycle on the XM-1, that the decision on the main battle tank for the future will not be made until a year from now, when the Leopard enters into serious competition and evaluation in March of 1976, and then a decision will be made. . . .

Senator Culver. Correct. The decision on the American prototype will be made in a couple of months, February or March, and it is undergoing testing in Aberdeen.

Now, it seems to me, Mr. Secretary, that this is the evidence of whether or not we are serious about NATO's standardization. We are talking about one of the most expensive procurement items that we are going to have in the foreseeable future in the arms industry, a million dollars a copy, with a buy of 10,000--\$10 billion.

The German Government has evidenced apprehensions about how sincere our Government is in fulfilling its obligations under the MOU. Now, where are we on this? I think that it is important to clarify the response that was made to Senator Taft on this subject.

Secretary Rumsfeld. As I indicated, Secretary Hoffmann and General Weyand are prepared to discuss it in detail, but it is my understanding that the way you described it is accurate,

except that instead of the phrase 'competition,' which I think suggests a particular form of comparison to most of us, the phrase that is being used is 'a comparative analysis,' which is why I made reference to the arrangement whereby these prototypes would be tested against standard reference. It is a semantic question.

Senator Culver. As to which elements best comport with NATO main battle tank requirements of the future, they are all going up against a comparable standard, in terms of weight and flexibility, fire power, cost, everything.

Secretary Rumsfeld. That is right.

Senator Culver. But our intent here is to honor our MOU agreement of December 1974.

Secretary Rumsfeld. Yes, indeed.

Senator Culver. That is to have a full-fledged comparative test and evaluation with the XM-1, and you do not preclude the possibility that could end up in a Leopard tank production?

Secretary Rumsfeld. No. The question that came up with Senator Taft was the situation that, as I understand it, the Leopard II will be available for this purpose in September 1976 as opposed to February 1976, which had been earlier anticipated.

Senator Culver. That 6-month slip was agreed to long ago. That is acceptable, but it does seem, I think, desirable in many ways to run all three in competition, but that was determined otherwise. We were going to have a genuine competition, but I understand that Senator Taft got a direct answer that we are really talking more about component parts and certainly played down the possibility that the Leopard II would be selected as such.

Secretary Rumsfeld. That is included.

Senator Culver. I agree it is included, but we are talking about a genuine competition here, are we not?

General Brown. Not competition; not competitive flyoffs as we do with aircrafts, but comparative evaluations. Senator Taft used the word 'commonality.' I think we all agree that this is an opportunity to do something about standardization and, as I understand it, we are quite serious. If the Leopard II turns out to be a better tank than the two models we are evaluating this spring, then we might arrange to build the Leopard II under license in this country. Of course, we cannot rely on a tank production line in some other country. Since the Leopard I was the result of a United States and German codevelopment effort, we know a lot about that tank. It is true that the model to be evaluated will be an improved and upgraded version of the Leopard which we have not seen.

Senator Culver. It does not make much sense for us to be jointly funding a cost study, which the American taxpayers are paying for now, of the producibility of the Leopard, for example.

Secretary Rumsfeld. Senator, on page 143 of my report, at

the top it says:

In September of 1976 a modified Leopard II prototype will be subjected to a comparative evaluation against XM-1 requirements. The test and evaluation will be identical to those accomplished by the U.S. candidates. Final results of the Leopard II evaluation are scheduled to be available by March 1977 and will be considered fully in the process of decision making on tank procurement.

Senator Culver. I just wanted to afford you an opportunity for purpose of a public record to make that statement so there will not be any ambiguity concerning the nature and purport of your response to Senator Taft's inquiry on the same subject hours ago.¹¹⁴

It was clear that DOD had decided to push the idea of commonality over competition.

Senator Culver also sought, unsuccessfully, to open the issue of the FSED contract which was due to begin in July of 1976.¹¹⁵

Senator Taft later pursued the questioning with Dr. Currie,

DDR&E:

Senator Taft. Dr. Currie, where are we on the XM-1? In open session it was asked the other day about whether the decision was made and we are going to go ahead with the XM-1 regardless of what the effect of the tests is, or whether we are still as a vehicle looking at the Leopard II. And my understanding was--and I was unable to get confirmation on it--that the tests are to take place are to test the effectiveness of various systems, and the possibility of developing commonality of systems, but not in this generation of adopting the vehicle other than the XM-1, either alternative, of the U.S. manufacturers; is that correct?

Dr. Currie. The two XM-1 prototypes have been delivered to Aberdeen Proving Ground and are undergoing Army tests to be completed this spring. The winner of that competition, assuming that one of the two tanks is adequate and meets the requirements--and everything I have seen so far indicates that this is one of the best programs we have--we will enter into engineering development next summer. The Germans have agreed to deliver their modified Leopard II by the first of September, following which time it will be evaluated on a comparative basis. Now, I would say this, that if our tanks do not perform adequately, or if they are too expensive, and if the German tank is clearly superior performancewise or cost-wise, that we still will

maintain the option to choose the German tank, I do not think that this is a high probability kind of an eventuality, but it is definitely in the plans.

Senator Taft. That will be the next fall decision?

Dr. Currie. About a year from now. So that we will begin engineering development on one of our tanks this summer, and the contract will have options in it to cancel that contract if the German tanks are chosen a year from now. This is done so that--

Senator Taft. When will the choice be made on the contractor on the XM-1?

Dr. Currie. It will be made early this summer and the contract will be given to one of them in July.

I think, however, the program, shy of that eventual happening, is already having a great deal--it is getting us together with the German tank people. For example, I have made available all of the technology in this country on fire control systems, night vision, and so on. And they, in fact, are using this; they are embodying it in their tank.

We have had exchanges on the design of armor.

So that I think that both nations will benefit by this exchange, even if it does not result in the choice by them of our tank, or vice versa.

Senator Taft. And that may result in the commonality of systems?

Dr. Currie. Yes.¹¹⁶

While DOD/Army testimony on procurement, which generally ignored the Leopard II, was unchallenged in the House, members of the Senate Armed Services Committee on several occasions jumped on the Army to clarify their position and to clearly include the Leopard II in the testing--often requiring inclusions of additional remarks for the record.¹¹⁷ The Senate was obviously concerned with appearances and the broader strategic issues at stake.

It was clear as time approached for the United States' XM-1 contract decision to be made that the Army considered the impending decision the important one with respect to a new tank and apparently

the Department of Defense had come to realize that there was no hope of the German tank winning and had decided to go along with the Army on that point. The General Accounting Office released the study requested by Senator Eagleton over a year earlier in which they questioned whether the DOD seriously intended to consider the Leopard II as an alternative to the XM-1.¹¹⁸ Newspaper reports of the GAO conclusions were widespread and further convinced the Germans that the cause was lost.¹¹⁹

The GAO in its broad evaluation went beyond the immediate political question and argued that the Army was " . . . permitting the XM-1 program to proceed on the basis of incomplete and inconclusive information concerning broader issues."¹²⁰ Specifically, the GAO noted:

(a) cost-effectiveness studies were needed with respect to tradeoffs between large MBTs and more numerous, less costly weapons as the best means of overcoming Warsaw Pact superiority.

(b) significant debate and controversy surrounds the choice of a gun, especially in light of recent United States, British and West German tripartite gun competition.

(c) the Leopard II is not being given a fair treatment.¹²¹

The first issue goes beyond the scope of the study, while the second will be addressed in the next section. The third point is the issue which has been discussed at some length in the last few pages. The GAO argued, after significant interviews with tank specialists, that the failure to test the three tanks simultaneously

could significantly degrade the reliability of the test data.¹²² Further, they pointed out, that since the Army had already prejudged ten major subcomponents of the Leopard II as unsatisfactory or inadequate for a variety of reasons (technical risk, cost, or schedule impact), very little room even existed for technical evaluation.¹²³ Finally, the GAO noted the impact of differing national experiences on tank doctrine and concluded that, considering the effect of doctrine driving requirements, along with the overwhelming pressures of national pride and economic interests, the chances of the Leopard II being selected were "slim."¹²⁴

A final issue is raised but not answered, in the GAO study which could bear further evaluation. In a letter of February 3, 1975 Representative Les Aspin (D-WI) also asked GAO to look into the XM-1 tank. Mr. Aspin noted, at one point in his letter, that due to advanced development status of the Leopard II, it could go into production, even in the United States, before the XM-1 could.¹²⁵ The Army, however, had continually argued that choosing the Leopard II would delay the program by 26 months.¹²⁶ Aspin's date does seem more reasonable, especially given that the Germans already had some 17 prototypes completed and were nearing a production decision.¹²⁷ This conflict was never addressed in the XM-1/Leopard debates.

Gun Size

The second point raised by the GAO study deserves further

examination. The issue of what size caliber gun to mount on the new tank has probably been the most politicized aspect of the entire program. As noted earlier, the Germans planned the development of the Leopard II around a 120 mm gun, ostensibly to meet the threat of the Soviet 122 mm gun and improved armor protection. Some have suggested, however, that it was as much a political ploy to sell the Bundestag a new tank.

The United States, in developing requirements for the XM-1 was considering, as noted earlier, a gun anywhere from 105 to 120 mm. No decision on guns was made until late 1974. At this point the United States began to lean toward the 105 mm gun (a British developed gun used on the M-60 tank). In the interim, however, the United States had agreed to join in a tripartite gun evaluation aimed at selecting a common gun for the United States, United Kingdom, and Germany which was to be concluded by late 1975.¹²⁸ The United Kingdom entered a 110 mm (smoothbore) gun; the United States, its 105 mm; and the Germans, a smoothbore 120 mm gun. The United States' gun used a new armor-piercing round which significantly increased its effectiveness. The 105 mm was also the most standard of the three; at least over the short term, as most current NATO tank guns were 105s.¹²⁹

The shootoff ended in late 1975 and in early 1976 the Commission gave its report. As reported by the New York Times, the Commission

. . . supported the 105 millimeter gun with the improved ammunition as the best short-term weapon, but recommended that for the long-term, the allies turn to the 120 mm gun developed by the Germans.¹³⁰

The decision against the United States' 105 for the long-term apparently was based on its failure to meet projected threats (new armor) without the use of a depleted uranium-core round.¹³¹

At this point, the allies split. Rather than accept the total recommendation of the commission, each saw it as justifying their earlier decision: the United States pursued the 105 (on the XM-1; therefore into the long-term); the Germans (and French) their smoothbore 120s; and the British, development of a new 120 mm gun, but one which would have a rifled rather than a smoothbore and which would therefore not be standard with the German 120!

The puzzling aspect of this outcome is that the United States had committed itself well over a year before the conclusion of the tripartite trials to the 105; why is not clear. One possible explanation for the United States' position is that it was largely a political decision on the part of the Army to put distance between its tank and the German tank. This seems plausible considering that the Army position solidified about the time that the German Leopard II began being seriously considered as a competitor to the XM-1. The decision to enter the tripartite gun shootoff was made in early 1974. For the half year the United States remained open to all three guns, but by late 1974 all discussion focused on the 105. By March 1975 the Army was

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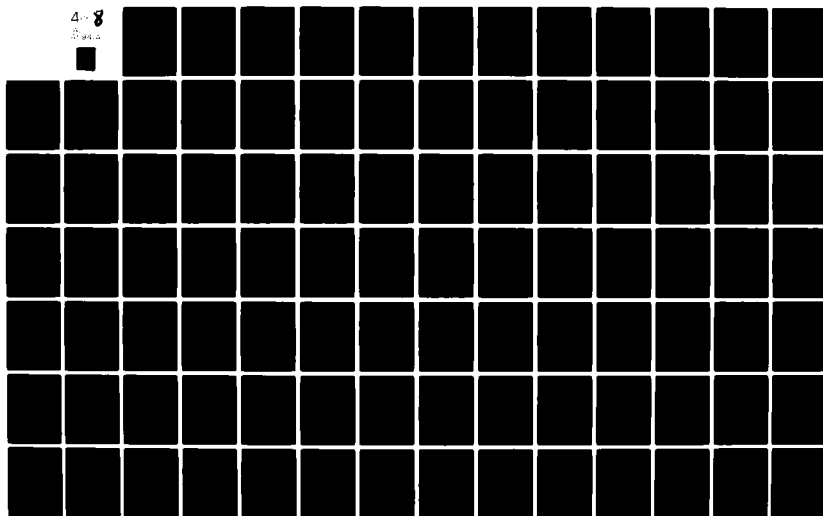
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considering the 105 as the XM-1 gun, in spite of later lip service to the competition.¹³² In April of 1975, Dr. Currie was hedging strongly against the likelihood of putting anything but the 105 on the XM-1: "If, let's say, one of the guns were far superior to the 105, we would still have to then balance that off against standardization and logistics and a redesign of the XM-1 tank."¹³³

The following exchange between Senator Culver and General Baer in March of 1975 clearly illustrates that the Army had already chosen the 105:

Currently, the XM-1 concepts are built around the U.S. 105-millimeter gun. The vehicles delivered at the end of the validation phase will carry this gun as its main armament. There were good reasons for selection of the 105-millimeter gun as the main armament for the initial XM-1 prototypes. The Army task force did review alternate larger guns which potentially had greater range and penetration capability than the 105-millimeter gun. However, it also considered that the 105-millimeter gun with some improvements already in progress could meet the operational requirements of the U.S. Army at that time.

There was consideration to standardization of armament and ammunition both within the U.S. Army and the NATO alliance. It was noted that about 50 countries had tanks using a 105-millimeter gun system. If you improve the capability of the 105-millimeter round of ammunition for the XM-1 tank, then you have automatically up-gunned every M-60-105 millimeter gun tank which is in our inventory and the several 105-millimeter gun tanks in the inventories of our allies. Although the current tripartite evaluation is being conducted in an important move to further consideration of improving tank weapons of NATO, we recognize that we must evaluate all factors associated with an alternate gun in the XM-1 tank, with careful attention to the benefits of increased performance from a larger caliber main gun versus possible disadvantages in the areas of cost, schedule, and design changes. The decision maker, we believe, needs all of these facts at his disposal, and it is my mission to provide those facts. Preliminary studies of alternate gun hardware will, of course, come from the trials now in process in England.

To attempt to summarize some of the facts that have been developed on the point here, we foresee a 1-year schedule slip,

and about \$55 million cost increase in R.D.T.&E. funds.

The indicated procurement cost increase is about \$195 million. These figures are stated in fiscal year 1974 dollars. Considered in years spent, the effects of inflation are added, and the increase would approximate \$820 million.

We are currently involved in two actions which have already been alluded to which could affect the XM-1 program as previously presented to you.

SIZE AND TONNAGE ALTERATIONS

Senator Culver. I do not quite understand these alterations you anticipate here in terms of size and tonnage. You mean under the results of the competition, the tripartite competition?

General Baer. No, sir, these are the impacts that are directly associated with the selection of the larger gun itself. A larger gun has much higher pressures.

Senator Culver. If out of the gun competition you select this, is that what you are saying here?

General Baer. If out of the gun competition we select either of the larger guns, the longer guns, it is this kind of impact that we are going to be dealing with. Again, there is nothing here that is impossible, there is nothing here that poses any technical challenges beyond those that would be normal in the redesign effort that would be associated with it. But a vehicle weight increase occurs, assuming that we want to maintain a level of protection consistent with that which we have established through the designs up to this point in time.

Senator Culver. Are you not really saying there, though, when you talk about the likelihood of a year's slippage in trying to accommodate the winner of that competition, is that what you are saying?

General Baer. That is what we are saying, yes, sir.

Senator Culver. Have you not really built in such a set of prejudicial considerations that there is no way that you are realistically even contemplating going ahead with it?

General Baer. No, sir, I do not think so. I think there are two factors which are very important. One is what may be a very significant payoff in performance, a greater capability of system performance at longer ranges against the threat.

Senator Culver. Can you envision seriously within the current state-of-the-art any conceivable kind of gun that would have a sufficient attraction to offset the kind of setbacks that are reflected in this term of schedule and your performance? The things you are citing right there are just about more than anybody would ever realistically bargain for. What kind of gun can you conceive coming out of that competition that would offset those negatives?

General Baer. Again Senator Culver, if you are looking for a substantial increase at penetration at longer ranges here, you

are probably going to have to go to a bigger gun. Again, the second point that I was going to address here is the matter of standardization or commonality within the NATO Alliance. If we agree upon a common gun in all of the future main battle tanks plus some retrofit programs in the existing system, there can be achieved, a payoff in the logistics area that may offset the cost differential to a considerable extent.

Senator Culver. Are we really obligated to live by the results of the gun competition?

General Baer. Each of the nations has the right to make an independent decision, and again, I think--

Senator Culver. Who will decide?

General Baer. In our case it will be the Secretary of Defense.

Senator Culver. Based on past history and comparable considerations, how sanguine is it that there is going to be any commonality ever emerging in this, despite the test results?

Mr. Augustine. In the case of tank guns, the past record has not been bad. For example, our current tank gun is a British design and is used by the Germans and ourselves.

Senator Culver. The 105?

Mr. Augustine. Yes, sir. Significantly enough, everybody is using it on their advanced tanks except the British and the Germans. The British have gone to a new gun themselves.¹³⁴

I have found no evidence of a clear decision to go with the 105, but rather sense a gradual drift to it partially due to Army comfort with the gun (including increased confidence in the new armor-piercing round), considerations of weight and cost, but ultimately and certainly hastened by a desire to, as noted earlier, avoid getting too close to the Leopard II and the challenges such a position could pose. The New York Times suggests this interpretation also:

Privately, some Defense Department and West German officials voice the suspicion that the Army insists on the 105 because it does not want to jeopardize the future of the XM-1 tank

The XM-1 and the Leopard II are to be subjected to a comparative evaluation in the fall. For the Army to acknowledge that a 120 mm gun would be needed eventually could give a competitive advantage to the Leopard II tank.¹³⁵

The Army tactic then appears to have been to lock itself into a position from which it would be too expensive to change. The XM-1 was designed to use only the 105; the Leopard II was designed to accept either the 120 or the 105.¹³⁶ This would seem to reinforce my suspicion with respect to the gun competition. Again the Army was probably sincere when it originally entered the competition; it was only when the German Leopard II became a serious threat that that sincerity changed. In the long run, this tactic appears to have been successful (along with others) in holding off a total system challenge by the Leopard II.

Following the decision to stick with the 105¹³⁷ the Army began to rationalize their position, noting that, first, should the United Kingdom, Germany and the United States all adopt the 105 (as they argued the commission had recommended) their tank fleets would be 97% standard by 1995.¹³⁸ The Army also argued that the shootout favored (according to their interpretation of the commission report) the 105 for the period of operation for the XM-1 and that therefore the 105 best advanced standardization.¹³⁹ However, in a press conference on February 12, 1976 Secretary of the Army Martin Hoffmann admitted that the tripartite group had recommended the 120 as the ultimate weapon for standardization purposes, in large part due to its growth potential. The 105 he admitted, has been recommended only as a short- and mid-term gun for all tanks.¹⁴⁰ In a later press conference on November 12, 1976 Hoffmann noted that the XM-1 was to be in operation well into the

1990s; to most people this would seem to fit the long-term time period (in fact, the DOD considers the period from 10 to 20 years to be the long-term).¹⁴¹ Thus the Army's major effort to rationalize their decision was tripped up in their own logic.

Nevertheless, the Army continued to label the Germans as the dissident in the group, claiming that they were the ones who rejected the panel's decisions.¹⁴² In testimony before both Armed Services Committees, the Army was extremely careful to make clear all of the above points, almost self-consciously, it seems. The Army did agree, however, that the XM-1 tank ought to be designed to allow future accommodation of a 120 mm turret and gun (a very low cost option) recognizing the uncertainty of Soviet armor protection.¹⁴³

The House Armed Services Committee never questioned the Army decision. The Senate Armed Services Committee however, continued to push for a standard gun. In its report, they requested:

. . . The Secretary of Defense to provide assurance that it is most cost-effective to continue with the concurrent development program with the 120 mm gun and the XM-1 tank turret development with the 105 mm gun as compared to a deferral of the turret development until it could be redesigned to accept a 120 mm gun option.

The committee last year expressed strong support of standardization in NATO and particularly the Army's effort to standardize tank weaponry in NATO. Actions since last year have been disappointing in this area as exemplified by the tripartite gun competition which resulted in the new German tank and Army XM-1 tank each maintaining their own gun.

The committee requests, therefore, that the Secretary of Defense seek new agreements for standardization with the NATO countries where the main battle tank could be standardized either in whole or to the extent possible through major components. Any new agreement that could be reached would be expected to include the acceptance of the principal countries

concerned to cooperate in an equitable manufacturing program that would be of mutual benefit.

The committee believes that this would be a positive step toward standardization in NATO.¹⁴⁴

In fact, the attitude among some Senate Armed Services Committee members and staffers was quite hostile with respect to the Army action. Hyman Fine, then senior staff member on the Senate Armed Services Committee challenged bitterly the Army's interpretation of the gun competition.¹⁴⁵ Senator Eagleton noted what was a prevalent feeling among many, that it was becoming apparent that the United States Army believed in standardization "only when American weapons are being standardized."¹⁴⁶

The General Accounting Office report also challenged the Army on the gun, apparently with respect to the perceived threat:

We have reservations about the decision to put the 105 mm gun on the XM-1, but DOD disagrees with us, stating that the chassis and suspension of the XM-1 model placed in full scale development will be modified as necessary to insure that a 120 mm gun can be accepted without design changes other than to the turret. The XM-1 project office estimated last year that changing to the 120 mm gun would add \$63 million to the development cost and could increase the tank's unit production cost by \$23,000 [fiscal year 1974 dollars]. Such a change would make meeting the present design-to-cost goal more difficult and would increase the tank's weight by about two tons.

The Secretary of Defense has suggested studying the prospects of incorporating the 120 mm gun in the XM-1 in the future. The German Ministry of Defense, on the other hand, has said it will not share in the continuing development of the 120 mm gun and ammunition but will complete the development immediately for use by the German Army on the Leopard II AV

The Department of Defense states that the 'logical' choice of the 105 mm gun is based on considerations of cost-effectiveness against anticipated threats, NATO standardization, logistic economics, low risk, and demonstrated potential more than sufficient to meet future potential growth in the threat.

The cost-effectiveness of the 105 mm gun/ammunition weapon system seems to be necessarily based on the desired effectiveness

against the currently estimated 1980s threat. The German position appears to be based on the existing capability of the 120 mm gun/ammunition system against a more distant future threat. Since both U.S. improved rounds are still in development, their low risk might be questioned.¹⁴⁷

The GAO recommendation was to continue to study the gun:

. . . the Soviets, with their larger guns, may have an important edge over the XM-1 tank with its 105 mm gun. The Tank Special Study Group, recognizing this possibility, recommended increasing the 105's range requirements and target-defeating capabilities. Whether the technology to do this is available or should be developed, whether a larger gun should be considered for the XM-1, or whether other anti-tank weapons with longer ranges could be counted on to match the Soviet weaponry are matters that we think require further study.¹⁴⁸

The disappointing success so far with respect to the tank was the impetus for growing pressure from both the Senate Armed Services Committee and State Department on the Secretary of Defense to take drastic action to reverse the trend away from standardization on the tank and to show positive signs of interest in initiating a genuine two-way street.¹⁴⁹

August 1976 (Addendum) to January
1977 (Addition to Addendum)

As the deadline for announcing the decision between the Chrysler/GM prototypes drew near, it was clear that the Army had won the battle and the Leopard II was dead, and along with it the hopes of those who saw it as a symbol of the United States' commitment to greater cooperation in defense procurement with Europe (the two-way street).

However, the proponents of standardization mounted a last-ditch effort to preserve the cooperative program. Senator's Nunn and

Culver, in a letter in April of 1976, asked Secretary of Defense Rumsfeld to reconsider the nature of the United States' tank. Apparently strong pressure was also exerted by the State Department's Bureau of Political-Military Affairs on the Assistant Secretary of Defense for International Security Affairs, the DOD's political-military division. Both suggested renegotiation of the agreement with the Germans to assure some harmonization of the tanks, admitting, in effect, that total standardization was not feasible and that the Army had won the big battle. Both sought to avoid the political repercussions which would follow a total scrapping of the effort.

At this point, increasing attention was turned to a little noticed provision of the original 1974 MOU; the same one, in fact, mentioned by Secretary of the Army, Martin Hoffmann in his February 1976 press conference, that section which required that maximum attention be paid to the development of common components (i.e., interoperability). Secretary of Defense Rumsfeld, bowing to the inevitability of the situation, but seeking to save at least some semblance of the agreement, agreed with the West German Defense Minister Georg Leber, at the NATO meeting in Brussels in June 1976, to, in principle, drop the idea of standardization and to pursue greater commonality.¹⁵⁰ Army Undersecretary Norman R. Augustine and Robert N. Parker, Deputy Director of Defense Research and Engineering (DDR&E) were sent to Bonn to work out the details.¹⁵¹ According to the New York Times, a draft memorandum was agreed upon

"calling for the two nations to use such common tank components as the gun, engine and power train."¹⁵² The memo was to be formally signed during Defense Minister Leber's visit to the Pentagon on July 2, 1976.

In between the agreement on the memo and Mr. Leber's visit, however, the Army mounted an attack against the memo on legal and contractual terms,¹⁵³ apparently with support of the Deputy Secretary of Defense, William P. Clements.¹⁵⁴

Senator's Culver and Nunn along with Eagleton and Representative Les Aspin continued to put increasing public pressure on DOD, with Nunn noting in particular the political implications of failure to show success on this project.¹⁵⁵ In spite of this, the Army was successful and the memo was not signed at the July 2 meeting. Following this meeting, Leber returned to Germany and began a campaign to ease domestic pressure (repercussions) at home by downplaying the feasibility of total standardization¹⁵⁶ and arguing for coordination between the two projects. However, at the same time, officials at Krauss-Maffei, AG, German manufacturer of the Leopard II, noted that they doubted the technical feasibility and possibility of integrating the two tanks. "It is absolutely impossible" noted one corporate official, "a tank is essentially one machine."¹⁵⁷

Both nations had by now faced the reality that a single tank was not on the horizon. On the other hand, the Army had blocked

the first attempt at a compromise between the two Defense Ministers.¹⁵⁸ As a result, the issue rose to the Chief of State level. In a meeting held in mid-July in Washington, German Chancellor Helmut Schmidt and President Ford discussed prospects for some form of cooperation.¹⁵⁹ Defense Department press spokesmen at the same time noted ongoing efforts to standardize fuel, ammunition and other parts of the two tanks.¹⁶⁰ Probably as a result of these talks, Secretary of Defense Rumsfeld directed the Director of Defense Research and Engineering, Dr. Currie (the third ranking person in the Pentagon, below the Secretary and his Deputy), to Bonn to work with his equivalent, Siegfried Mann, Director of Development in the West German Defense Ministry, to develop a new MOU working towards "maximum possible standardization of components."¹⁶¹

Approaching rapidly, however, was the deadline for choosing a "winner" between Chrysler and GM prototypes and awarding the FSED contract. Anticipating (or hoping) that some agreement with Germany would be signed (perhaps in August, after the current Army contracts with GM and Chrysler were terminated), Secretary of Defense Donald Rumsfeld, in a surprise move, ordered Secretary of the Army Martin Hoffmann to delay source selection for another three to four months and to ask the contractors to resubmit bids considering opportunities to standardize on key components, especially "those which dominate field maintenance and logistics

tank support in the field."¹⁶² Specific requirements were to be set by the Army and would reflect the intent of the original MOU (1974) and the addendum which was expected to be signed within several weeks. Among other items raised during Secretary Hoffmann's press conference on the day of the deferral were:

(a) The addendum implied a drastic shift from the Army's earlier position that introduction of common items could be made after the XM-1 was in production; an attempt would be made now to decide on them before the XM-1 got to production and thus incorporate them in the final design.¹⁶³

(b) That some cooperation was ongoing between the United States and Germany in the Army Training and Doctrine Command in an effort to standardize tactics and doctrine to aid in standardization of equipment.

(c) That the competition between the Leopard II and XM-1 was still on and theoretically, the Leopard II might still be selected as sole winner.

(d) That while the Leopard II was going through the United States' evaluation, it would have a 105 mm gun (as did the United States' tanks); but due to the new change in ground rules, the XM-1 might ultimately end up with a 120 mm.

(e) Finally, Hoffmann consistently refused to answer any questions dealing with why the decision to delay was made or by whom it was made.¹⁶⁴

The decision to delay the tank competition touched off a series of responses from Congress; the patterns of those responses were consistent with previous positions. The Senate endorsed the actions¹⁶⁵ while the House Armed Services Committee exploded in anger. Congressman Stratton, the Army's strongest supporter noted that the Congress had voted clearly a year earlier against slowing the tank program to give Germany a chance to compete; he saw Rumsfeld's decision as a flagrant disregard of Congress, and called for immediate hearings.¹⁶⁶ The hearings which followed will be summarized later.

On August 4, 1976, the Army announced the signing of the Addendum to the 1974 MOU. The addendum was negotiated in late July and signed by Secretary of Defense Rumsfeld and Minister of Defense Georg Leber on August 3, 1976.¹⁶⁷ The addendum called for "standardization of items that dominate the logistical support of our tank forces, including fuel, ammunition, guns, tracks, engines, transmission and fire control."¹⁶⁸ In his press conference on August 4, Secretary Hoffmann noted that the agreement was a two-step one: First, several standardization steps were to be taken immediately, i.e., incorporated into the GM/Chrysler prototype for evaluation.¹⁶⁹ These included fuel, track, night-vision devices, metric-fasteners and a hybrid turret which could accept either a 120 mm or a 105 mm gun. The second step would center around standardization of major components such as the gun

(and ammunition) and engine/transmission as (and if) those components achieved maturity.¹⁷⁰ The action on the gun itself seems even here to be a delaying tactic--the Germans considered the gun mature enough to incorporate immediately on their tank. The United States apparently wanted to show some good faith by indicating willingness to standardize on the 120 but qualified it heavily. There also was a question with respect to whose 120; the German smooth or the new British rifled.¹⁷¹

Interesting is the dramatic reversal from testimony by the Army in April of 1976 before the Senate Armed Services Committee that "the Army sees no requirement now to go to the expense and program delay required to redesign the XM-1 turret to accept the 120 mm gun."¹⁷² As a result of DOD pressure, the Army was now being forced to testify that they saw a need for it--Army tactics before Congress were to illuminate clearly their true position. Further, although the agreement called for ultimate standardization on the gun and engine, the timing was such that it was inevitable that early models of the XM-1 would still mount the 105 and early Leopard II's their own diesel engine.

The addendum represented a significant blow to the Army as pointed out by the New York Times:

The largest concession appears to have been made by the United States Army, which has been defending its 105-millimeter gun and fighting against further delays in fielding a new main battle tank.

For thirteen years the Army has been seeking to develop a

new tank. Officers were concerned that further delays for the sake of achieving common characteristics with West German tanks could jeopardize the future of the XM-1 program just as it was finally reaching its final developmental stages.

The United States Army had been contending that the 105-millimeter gun was now fairly standard within the alliance and that with improved ammunition would be adequate to meet a Soviet tank threat. West Germany finally prevailed with its argument that the 120-millimeter gun was needed to match new Soviet tanks, which have guns ranging from 115-millimeter to 122-millimeter. . . .

At a Pentagon news conference, Army Secretary Martin R. Hoffmann acknowledged that the agreement on common components would lead to a four-month delay in the XM-1 program--an estimate that Army officers fear is too optimistic--and add about 15 percent to the cost of each tank. But he suggested that the delay and increased cost would be outweighed by standardization and increased combat effectiveness of the XM-1.¹⁷³

The agreement was a costly one for General Motors who apparently had been selected as the prime contractor before Rumsfeld "overturned" the decision (delayed it). The GM tank was also at a disadvantage in the upcoming trials as GM's prototype used a conventional diesel engine and the new addendum required a turbine engine which the Chrysler prototype already had. The new Request for Proposals (RFPs) which went out to GM and Chrysler required that both contractors look at and bid on the basis of a turbine engine as well as a diesel engine. However, it was clear from the addendum that the turbine engine would be selected if at all possible.¹⁷⁴ The furor touched off in Michigan by this decision was also hot; the diesel was built by Teledyne Continental in Michigan--the turbine by Avco-Lycoming in Connecticut.¹⁷⁵ General Motors responded angrily to Rumsfeld, "protesting the

short (120 day) time fuse allowed for redesign of the GM tank, and challenging as 'improper' DOD's decision to reopen the competition after the two bidders had submitted their 'best and final' offers."¹⁷⁶ The President of GM reportedly was talked out (at the last minute) of telling Rumsfeld that "We gave you our best and final offer."¹⁷⁷ Rumsfeld's response to GM on September 1, 1976 was quite cordial but clearly indicated that although he agreed that the XM-1 program had been highly successful in "meeting performance, cost and schedule goals," he nevertheless intended to stand by his decision to delay in order to achieve "commonality and interoperability of tank forces within NATO."¹⁷⁸

Others dissatisfied with the decision were General Baer, the Army Program Manager who was prepared to retire in protest but was convinced to stay on for the good of the program.¹⁷⁹

However, as Armed Forces Journal, International, a source not totally unsympathetic to the Army, points out, the Army brought on many of its own problems. The Army knew DOD wanted all alternatives looked at. However, as the Journal notes, some familiar with the behind-the-scenes Army/DOD debate:

. . . charge that the Army paid little more than lip service to long-standing requirements that both XM-1 designs be able to accommodate a 105 mm or 120 mm gun and use either the diesel or gas turbine engine. The Army, they say, had assured both DOD and Congress that such 'dual-track' proposals would be carefully evaluated. When the Army came forward with its source selection recommendation, it became obvious that the 120 mm turret and engine alternatives had not been studied in the depth required for an informed decision. AFJ has learned that as far back as early 1975, General Motors was denied the

turbine engine data it needed and had asked for in order to submit a meaningful alternative to its diesel-configured tank. Some observers, however, say simply that the Army 'oversold' its 'one-track' design to Congress; that 'institutional arrogance' at the 'working level' led to only a cursory look at possibilities for standardizing on major components of the XM-1 and Germany's new Leopard II.¹⁸⁰

The response of the House Armed Services Committee to the delay was hostile, especially from the two-man tank subcommittee of Representative Sam Stratton and Elwood Hillis (R-IN). The panel and House Armed Services Committee held nine days of hearings on the decision during which the Army witnesses were given all the opportunity possible to clarify their opposition to the decision and DOD witnesses were generally harassed. Secretary of Defense Rumsfeld refused to appear before either the full Committee or the panel and, in fact, strongly criticized Stratton for "badgering" DOD witnesses in a letter to Representative Melvin Price (D-IL), Chairman of the House Armed Services Committee.¹⁸¹ Stratton himself had earlier refused to breakfast privately with Secretary Rumsfeld in early August. Stratton was angry from the start with what he perceived as DOD arrogance in not coordinating the delay with House leaders and for ignoring strong Congressional direction of a year earlier not to delay the tank FSED contract.¹⁸²

In testimony before the House Armed Services Committee and the XM-1 Tank Panel, Army Secretary Martin Hoffmann admitted that he had opposed Rumsfeld's decision but through a "process of consultation," dropped his objections.¹⁸³ He also denied that the

State Department had influenced the decision.¹⁸⁴ Hoffmann also noted that the final decision was still up to Congress regardless of the Addendum to the MOU; this made clear to Congress that the Addendum to the MOU did not override their authority, and, in a sense, invited Congress to override it.¹⁸⁵

General Baer noted that "he 'personally' did not believe that there were any potential 'technical' gains to be made by delaying selection of a prime United States contractor for the program from July 1976, when the decision has been scheduled, until November",¹⁸⁶

The Army Vice Chief of Staff, General Walter Kerwin Jr. was less cautious than Baer. He testified, the New York Times reported, that every responsible Army official recommended against the decision.¹⁸⁷ He further argued that the decision to seek subsystem-level standardization could stretch out the program up to two years, increase total costs more than \$900 million and degrade combat performance 8-10%.¹⁸⁸ Rumsfeld strongly rejected these figures as "inexcusably misleading," in a press release of September 27, 1976.¹⁸⁹ The figures Kerwin used were supposedly internal figures circulating through the Army prior to the July decision.¹⁹⁰ Stratton also noted to Kerwin, and Kerwin agreed, that reprogramming of funds would be necessary before any currently appropriated funds could be spent for Leopard II/XM-1 studies. Kerwin further confirmed to Stratton that an internal Army document

listed a probable delay of 8-11 months--at a cost of \$3 million a month. Estimates of total increased costs of close to \$1 billion and decreased combat effectiveness of 8-10% due to the dual turret were encouraged/solicited by Stratton and willingly provided by Army witnesses. Another argument by Kerwin was a pious claim that one of the Army's major objections to the delay was concern that failure to proceed immediately with selection of a single contractor would violate Congressional directives, a somewhat hard-to-swallow position.¹⁹¹

The panel also challenged both the gun and the engine, the prime common elements: the 120 mm gun had been rejected several times by the contractors; most recently in early 1976. The panel raised the issue of destandardization and of new tank rounds which increased the armor penetration of the 105. Finally, it noted degradation in combat from the hybrid turret due to increased weight, larger silhouette and fewer rounds of ammunition carried in addition to the fewer types of ammunition available for the 120.¹⁹²

Looking at the engine, Stratton raised a telling point; he suggested that the turbine was chosen as a standard engine because it:

. . . was the only logical candidate for engine standardization since the United States and the FRG had satisfactory diesels. Thus it was chosen by a process of elimination rather than on the basis of demonstrated superiority of performance. According to Army Under Secretary Augustine's testimony, the FRG was totally committed to the 120 mm gun; therefore, the only possible quid pro quo was to standardize on the turbine engine.¹⁹³

This is a quite logical and probably accurate interpretation in light of the fact that the GM tank, with a diesel engine, was the Army's original choice.

The panel recommended to the full committee that:

. . . the committee inform the Secretary of Defense by resolution that it does not support the proposed revision of the XM-1 and that it is the intention of the committee that the program should proceed to Full-Scale Engineering Development on the basis on which the program was approved by Congress as quickly as possible.

The panel recommends further that the committee inform the Secretary of Defense by resolution that it is the position of the committee that any change in the major components of the XM-1, including the turret, to achieve standardization should be considered only for later generations of the tank after components have been fully evaluated according to normal validation procedures and only in such a way as to avoid frequent piecemeal changes; and that it is further the position of the committee that any expenditure of funds toward development of such standardized components should commence only after congressional approval of a reprogramming action from sources other than the XM-1 program, or through the normal authorization and appropriation process.¹⁹⁴

The full committee did not go along with the totality of the recommendations however, limiting its resolution to one of general disapproval of the addendum but allowing DOD until November 17, 1976 (as DOD planned anyway) to make its decision. The committee also took pains to note that continuing congressional support of the program was contingent on good behavior by DOD:

Resolved, That the Committee inform the Secretary of Defense that the congressional support he seeks for the XM-1 program can best be assured by his responsiveness to the following guidelines:

- (1) The XM-1 program should proceed into Full Scale Engineering Development with a single contractor as quickly as possible, but in no event later than November 17, 1976;
- (2) In making the selection between alternative proposals,

the Source Selection Authority should select that proposal which offers the best possibility of achieving the primary objective of the XM-1 program, even if that selection is in conflict with the terms of the addendum to the Memorandum of Understanding with the FRG;

(3) If one of the standardization proposals is selected as best meeting the primary program objective, Full Scale Engineering Development should serve as a basis for comparative testing of the basic XM-1 turret and the dual-capable turret. The final decision as to which turret should be incorporated in the initial production of the XM-1 should be based solely on the actual results of testing during Full Scale Engineering Development;

(4) The commitment to agree with the FRG on a specific 120 mm gun configuration by January 15, 1976, was not justified to the Committee on the basis of known military requirements. Therefore, the Committee cannot support or fund any such commitment until:

(a) Alternative 120 mm gun systems have been comprehensively tested and evaluated by the Army, and;

(b) One of those alternative 120 mm gun systems has clearly demonstrated superior combat effectiveness over the present 105 mm gun and its future improved ammunition;

(5) The testing and evaluation of alternative 120 mm gun systems should be conducted as a parallel program, separate and apart from the funding of the XM-1 program; and should commence only after congressional approval of a reprogramming action, or through the normal authorization and appropriation process;

(6) The Committee believes that the Army can choose now, on the basis of hard test data, between the diesel and turbine engine, and that it should do so without regard to which engine is compatible with the addendum to the Memorandum of Understanding.

(7) The Committee believes that the source selection process should be restructured to provide independent input from the user elements of the Army. As a minimum, this should involve full access to actual test reports by the commands represented on the ASARC to assure that the Source Selection Authority has the benefit of independent systems evaluations.¹⁹⁵

The harshest criticism centered on the gun as noted above.

The qualification of "clear" superiority over the 105 and the requirement for reprogramming or new authorization and appropriation

of funds for test and evaluation of the 120 guaranteed it a rocky road ahead. The committee, in requiring that the success of the XM-1 outweighed their concern with the Addendum to the MOU clearly underscored their categorization of standardization as a secondary objective.¹⁹⁶

While the final Committee resolution was less harsh than the panel would have preferred, it nevertheless provided a forum for the Army and House Armed Services Committee to reinforce their opposition to the tank and to limit DOD's freedom of action in a number of areas.

A second House action taken shortly after the decision to delay illustrates also quite clearly the operation of constituent and industry pressure in the tank decision. Language was written into the Conference Report to the FY 1977 Appropriation Bill as follows:

After the House and Senate Appropriations Committees completed their review of the fiscal year 1977 Defense appropriation budget, the Secretary of the Army announced significant changes in the XM-1 tank program. The proposed changes were a major departure from the XM-1 tank program justified to the Congress. The Conferees are in agreement that a new main battle tank should be fielded at the earliest possible date. The XM-1 program thus far has been one of the most successful development programs in progress. It has been on schedule, within cost, and the tank itself incorporates new technology that promises to more than offset projected increases in Soviet anti-armor capabilities. The Conferees are concerned that the proposed changes could unduly delay the U.S. XM-1 program, increase the cost of the tank and degrade its performance.

The Department of Defense and the Army are put on notice that this is an item of special interest to the two appropriations

committees. The Conferees agree that initiation of the revised program should be subject to the reprogramming process. Further, if the Army intends to use funds appropriated for the transition quarter for purposes other than those justified originally to the Congress, a prior approval reprogramming action to the appropriate Committees of Congress will be required.¹⁹⁷

While the language reflected the interest of both committees (and was quite consistent with earlier action of the Senate Appropriations Committee) the New York Times reported that it was actually written in at the suggestion of Representative Jack Edwards (R-AL):

Teledyne Continental Motors, which developed the diesel engine used in the General Motors tank has a plant in Mr. Edwards' Congressional district. Mr. Edwards said in a telephone interview that he had been subjected to no pressure by the company and that his sponsorship of the language reflected concern that the XM-1 program, which had been going extremely well, was getting off the tracks.¹⁹⁸

While the Senate Armed Services Committee also held hearings, they were not nearly as extensive as the House Armed Services Committee (only three days). They were, however, also not totally supportive of the decision. Senator Bartlett (R-OK), a long-time tank observer questioned witnesses closely about the evolution of the change, primarily due to conflict between earlier Army testimony on the gun and turbine retrofit. The Pentagon received strong support, on the other hand, from Senator's Stennis (D-MS), Symington (D-MO), Nunn and Culver. No resolution emerged from the Senate testimony.

Testimony before another Senate committee, the Subcommittee

on Federal Spending Practices, Efficiency and Open Government of the Committee on Government Operations was extremely friendly to DOD witnesses and supportive of the delay. Deputy Secretary of Defense Clements was given a forum from which to attack Stratton's tank panel's conclusions as "baloney."¹⁹⁹ While admitting that the decision could have been reached in a more orderly fashion, Clements nevertheless felt it was a good one.²⁰⁰ General Kerwin was also more restrained before this committee and, when pressed by the Subcommittee Chairman, Senator Weicker (R-CN) on the decision to standardize on the turbine, admitted that "the wave of the future is with the turbine."²⁰¹

The mood before the Senate committees was clearly more favorable with respect to the decision. Less opportunity was provided the witnesses to oppose the DOD decision and what probing did occur was, it appears, more to determine how much of the Army's opposition was sincere and how much parochial. For example, the House elicited and let stand, without any in-depth probing, criticism of the gun and engine. The Senate committees, on the other hand, seemed more interested in determining if the decisions were good or bad on their merits. While the answer to these questions are not simple, it is clear that the Senate was trying harder to come to a decision on whether to support or object to the deal by evaluating the implications rather than attempting to find evidence to support a predetermined decision

to object to the delay, as apparently, the House Armed Services Committee and especially the tank panel were doing.

The Decision

On November 12, 1976 Army Secretary Hoffmann announced that Chrysler had been selected to develop the XM-1 tank and was to be awarded a \$196.2 million contract for the development and production of eleven pilot tanks over the next 36 months. The new tank was to incorporate the turbine engine and would have a dual capable turret designed to accept either a 120 mm or a 105 mm gun.²⁰² Both of these provisions touched off controversies.

The turbine engine was an untested concept on a tank, and, as such, a relatively high risk item. In fact, the Army had, in part, rejected a turbine engine earlier by choosing GM in the initial competition.²⁰³ The turbine was chosen at DOD insistence. Hoffmann, however, tried to diffuse this by taking pains to note, in the press conference that, although the new items in the restructured United States tanks met all the requirements of the MOU, the actual selections were competitively made and were "made on the basis of what was the best tank for the United States Army." He specifically stated that the turbine engine "stood on its own merit."²⁰⁴ This is rather hard to believe considering the Army's earlier decision and in light of testimony before Congress.

Besides charges of risk, the decision on the engine raised questions of Chrysler "buying in" on the contract, especially in

light of its experience with the turbine,²⁰⁵ and given that it realized it had lost the earlier competition and was trying hard not to lose the second. There is a fair amount of evidence to make the Chrysler bid suspect. Although Hoffmann stated in the press conference that he was confident that Chrysler had not "bought-in," it is difficult to explain the fact that the original Chrysler bid of \$221 million dropped to \$196 million (an 11% decrease) while GM's bid increased from \$208 million to \$232 million (up 12%). Thus, while the original bids were \$13 million apart (GM low), the final bids were \$36 million apart in the opposite directions (Chrysler low) for a \$49 million total change.²⁰⁶ The Army felt, they explained, that Chrysler had justified the change by eliminating a number of frills in their original bid.²⁰⁷ However, experience with defense contracts makes one naturally suspicious that much of what was removed may later be added back in.²⁰⁸ In fact, on the issue cost, less than three months later, Chrysler reported an increase of \$30 million would be necessary for additional testing of the turbine engine, which infuriated Stratton and others who claimed that the Army knew the cost increase would be necessary all along but kept quiet about it earlier.²⁰⁹

The gun question raised almost as many problems. Again, DOD forced a dual turret on the Army. But as is clear from the press conference, the Army was still hedging on whether and, if ever, when the 120 would be mounted. As Hoffmann noted, even

though the Germans were to go with it on their tank " . . . it would have to be tested, it and its ammunition, in order to assure that it meets our needs. It would have to be certified that it meets our particular qualifications, and of course, it would have to be certified for manufacture in the United States."²¹⁰ The following exchange (between Hoffmann and the press) further illustrates the foot-dragging, relatively successful, as it has turned out, by the Army. It is important to keep in mind, also, the DOD was limited in how much pressure they could exert with respect to the gun, in view of the clear warning from the House Armed Services Committee that the gun was of high interest and that DOD had better go slow and clearly show its increased capability before replacing the 105--and then, only with Congressional approval. Thus, while DOD was safe in pushing the dual turret, there was great political uncertainty over whether that would be an empty battle, the 120 never being certified to go on the tank.

Q: Since this whole thing sort of hinges on the guns, could you tell us--and we have this January 15 date for the West German gun evaluation to be completed by, and then you have by the spring for the British gun, is there a conflict here? Can you complete the evaluation of the British gun, which I understand is . . .

A: Well, I'm not sure I understand what you mean since the whole thing hinges on the selection of the gun. This program goes ahead independent of the selection of the gun. The dual capable turret could take any of the 120s currently under contemplation. Now, the problem comes when we're attempting to work with the British and with the Germans on which is the best gun for us, the smooth bored German 120 or the rifled British 120. And those decisions lie ahead of us. And we've indicated we'll make our choice based on the evaluations on the data that we have, and if we don't have enough data on

which to make a choice we won't make a choice.

Q: Can you at least say that it's probable we'll eventually go to a larger 120 millimeter gun?

A: I would think it is probable that before the battlefield life of this is over that we would go to a 120. But in terms of when and which I couldn't say.

Q: I don't understand this at all. You're going to make a selection early next year on whether it's the 120 millimeter German gun or the 120 millimeter British gun. Correct?

A: Hopefully, yes.

Q: All right, that's early 1977.

A: Yes.

Q: The Germans are going to go into production of their Leopard in 1978, or a little bit ahead of us.

A: I think so.

Q: At which point they have a gun.

A: They have theirs.

Q: Which they think is enough to defend their troops and they value their lives as much as ours.

A: Yes, sir.

Q: The British claim they already have the 120 millimeter gun developed, or pretty well developed. You now make a choice in 1977, we don't go into production until 1979, and you're saying that even by then you still can't make up your mind as to whether to put the 120 on the tank?

A: I think that what I said was that we think we can make up our mind before then. We don't anticipate that these designs could be qualified to meet our needs by the time we go into production with the XM-1. Now, that of course is based on the fact that we have some requirements, mission requirements, climatic requirements, that are somewhat broader than either the Germans or the British at this point. But in any case we would want to be satisfied as to the gun and ammunition before we put it on, and notwithstanding the German fielding of a 120, we don't see ourselves getting there prior to the production dates on the XM-1.

Q: Would you go into a situation where the tanks that are going to go to Europe you put the 120 on, and those tanks that you may want to send to other areas, for climatic reasons, you put on a 105?

A: Well, that's an academic possibility, but whether you would feel it was worth it to have that discontinuity in your ammunition over the fleet of tanks, again I don't know. Most of the XM-1s are contemplated for Europe.

Q: Doesn't the British gun use different ammunition than the German gun? One is caseless and the other isn't, so if you chose the British gun you wouldn't have the benefits of

ammunition standardization, would you?

A: I think that's correct, except with the British.

Q: Isn't the main thrust of standardization with the West German Forces on the continent?

A: With the NATO allies, our particular thrust in the Addendum to the MOU is with the Germans, yes, though it did include mention of the British gun.

Q: Would that indicate that it is less probable you will chose the British gun?

A: I don't think it indicates anything one way or the other.

Q: Thank you.²¹¹

Not only was the entire question of the gun in question, but a new political controversy was stirring; that between selection of the British or German 120. Earlier it was noted that the British gun²¹² would not be ready for testing until March of 1977 or so. Yet, the Germans were pushing for an early decision (January 1977) and subtly reminded the United States that they (the Germans) had agreed to mount the United States' turbine in their tanks.²¹³ Thus the Army was caught between two conflicting agreements and also had DOD and the House Armed Services Committee breathing down their necks--obviously a quite uncomfortable position. Apparently the Army decided to approach the gun much as it had the tank competition with probably similar intentions; the decision on the German 120 would be made by January 15, 1977 and then later in the spring, the German gun (if selected) would be compared to the British 120.²¹⁴ Given past experience, the British could not have been too happy with this decision.²¹⁵

A final irony is found in an answer by General Baer to the gun/turret issue. Where the Army had previously argued against

changes to the turrets prior to production, arguing that such changes would be better made after (and if) the decision to remount the 120's on the tank were made, General Baer was now forced to defend the pre-production, dual turret plan and argued that the cost would be minimal and the decreases in capability would probably not occur; in fact, that the capability of the turret and the protection afforded by it was better, a clear contradiction to Army testimony the previous month before Congress where the Army estimated a year delay to redesign the turret and some \$260 million in increased costs.²¹⁶

In a final comment on the contract award, the continuing fiction of the Leopard II competition was emphasized by a question in response to Mr. Hoffmann's statement that the XM-1 was the finest tank in the world and ". . . expected to be the main battle tank for United States forces throughout the decade to the eighties and on into the 1990s."²¹⁷

Q: How do you know it's going to be the finest main battle tank in the world if you haven't completed testing of Leopard?

A: If the Leopard outdoes the XM-1, and that competition will be resolved in March, the Leopard would replace this as the finest main battle tank. Our assessment at the present time is that given the technology here--the two may be even, but we feel this represents the best main battle tank technology in the world.²¹⁸

As several newspaper articles pointed out, the competition was truly a fiction and it was fruitless to continue it. There was just no chance of the Leopard II being selected for several reasons:

- a. The higher cost of each Leopard II (estimates ranged from \$20,000 to \$200,000).
- b. Congress would never admit that a foreign built major weapon system is better than an American system.
- c. The Leopard II could not be clearly better because both were designed for NATO use with U.S. and Germany exchanging information as the development progressed.²¹⁹

While there may have been some advantages to continuing to compare the tanks, the current procedure still was advertised as a competition, which it clearly was not. And the danger of further political repercussions were high as long as the facade was maintained. Further the actual financial costs of continuing the charade were high. Some \$5 million was expended on the testing and the study by FMC Corporation to determine the cost of producing the tank in the United States. It clearly was past time to clear this up.

In a final note, it is interesting to examine the similarities between the MBT situation and the XM-1/Leopard II programs. Both started as joint programs. Once they failed, some semblance of success, however illusory, was preserved by agreeing to continue close cooperation. While more than lip service was given to the fallback agreement in the XM-1 case (but only because DOD forced it--in the MBT case, McNamara was gone when it broke down and thus there was no independent external support for the continued cooperation) it appears that the only result of the DOD concern in the XM-1 situation has been to drag out the inevitable death of the whole cooperative project.

January 1977 (Addition to
Addendum)

As the January 15 deadline for choosing the gun approached, the Army, under DOD pressure to make a quick decision on the gun, sought instead to delay that decision, realizing the dilemma they were caught in between the DOD and Germany on one side (pushing the 120) and the House Armed Services Committee on the other (supporting the 105). After a hurried trip to Bonn by Hoffmann, a joint announcement was issued on January 12, 1977 in which the United States postponed its decision on a standard gun until December 30, 1977.

According to DMS Intelligence, the House Armed Services Committee was the main force in securing the delay. The House Armed Services Committee wanted, probably, to drag the decision out and complicate it by introducing the British gun into the picture.²²⁰ They probably also realized that the Germans would have to make a decision in the meantime and would probably decide (as they did) on their own 120. This delay could only help the Army and make the Germans look bad.²²¹

It is important to note, however, that the January 12, 1977 joint agreement stressed Germany's right to go ahead with its smooth-bore without regard for whatever decision the United States made (on the 105 or the British 120 or the German 120) and without waiting for the British gun to be ready. Thus, although the

Germans would look bad, the United States had agreed to their actions. A portion of the agreement follows:

On January 11 and 12, 1977, in continuation of the FRG-US negotiations concerning tank standardization, Martin R. Hoffmann, the Secretary of the Army, held discussions with Georg Leber, Federal Minister of Defense, and State Secretary Dr. Karl Schnell in Bonn.

Discussions focused on standardization progress achieved to date, and both sides emphasized their intention to reach utmost commonality in their respective tank programs.

Major issues were resolved as follows:

- The United States is not in a position to make its decision on a 120 mm gun by January 15, as previously agreed, and thus will postpone decision until December 30, 1977 in order to allow for further test and evaluation.
- Further, the FRG intends to propose to its parliament in March 1977 a smoothbore 120 mm gun for Leopard II production in pursuance of the July 1976 Addendum, and in order to meet its schedule for fielding the Leopard II tank.
- Both nations agree that as their respective programs progress, the main gun and other sub-systems will be considered in a continuing program of main battle tank standardization.²²²

Ironically, the last paragraph is the most important, but was the least noticed over the next week. Hidden in it is the decision to terminate the overall tank competition. Press reports, however, continued to consider the competition on.²²³ A press memo from OSD on January 18, 1977 clarified this new agreement (called the Addition to Addendum 1 of July 28, 1976 to the MOU of December 1974). Secretary Hoffmann stated that the agreement officially "limits the United States' evaluation of the FRG Leopard II Main Battle Tank."²²⁴ The continuing evaluation (competition) was to be limited to the subsystems specifically

identified in the Addendum of July 28, 1976 (i.e., engine, transmission, track, fire control, fuel, night vision device, gunners telescope and critical fasteners, plus the 120 mm gun). Although both countries were ready to terminate the competition, the initiative had come from the Germans.²²⁵ Thus the fiction of competition was finally dead; yet the political (as well as financial) costs had been high and would continue to grow, as would become clear.

The tests of the Leopard II had been completed in December, yet the Army's evaluation of them had not yet begun. With the agreement to terminate came widespread speculation as to why the decision was made; although no answer was ever made public, the interest and speculation surrounding the abrupt decision would, over the next few months cause the Army to launch several defensive attacks on the Leopard II, which would have severe political repercussions on United States/German relations.²²⁶

The Army felt it necessary to publicly disseminate the results of the evaluation in order to defend themselves against accusations that they had railroaded the Leopard II. The Army tactic involved demonstrating that the Leopard II had failed to satisfy 12 of the 18 characteristics against which both tanks were tested.²²⁷ Among the characteristics the Leopard II had supposedly failed were weight, width, cost, crew and equipment survivability, rate of fire and ammunition storage.²²⁸ Further

accusations surfaced that the prototype Leopard II tank the Germans provided for mobilization, fuel, acceleration and other similar tests was short-weighted; the implication being that the Germans were deliberately cheating in the tests.²²⁹

The German's response to these and other accusations was violent. On one hand they protested Army treatment during the tests, challenging the fairness of some of the tests.²³⁰ Other challenges were raised to the Army's interpretation of the tests. The General Accounting Office, in a report made public, noted that other evaluations (including one by the Army Material Systems Analysis Agency [AMSAA]) of the results showed the two tanks about equivalent in mobilization and firepower tests. Although they found the XM-1's armor protection markedly better, they did note that with more time to prepare for the evaluation, the results might have been closer.²³¹ The General Accounting Office further noted that the favorable Army Material Systems Analysis Agency's (AMSAA)

. . . conclusion contrasts markedly with that provided us earlier by Army officials closely associated with the XM-1 program for several years. These officials interpreted the tests as showing that the Leopard failed to meet the majority of the specified requirements--an interpretation contrary to the test results.²³²

The results were released by AMSAA in May of 1977. Unfortunately, by then, earlier Army releases had had significant political effect.

The German's response on the political level was bitter.

The Germans interpreted the Army's actions as a prelude to a total pullout by the Army from the several standardization agreements. German confidence in the United States' willingness to uphold the tank agreement was especially shaken by the planned delay of the gun decision until December of 1977 and by inclusion of the British 120 mm gun in the competition; especially since the German gun was already available. The Germans saw this as a ploy by the Army to avoid standardization and to stay with their own 105 mm.²³³

Georg Leber carried the same protest directly to the new Secretary of Defense, Harold Brown. In his discussions with Secretary Brown, Leber apparently raised the issue of NATO purchase of AWACS (noted earlier). While Leber and Woerner (also in Washington) did not specifically link the two systems, they suggested that it would be difficult to get parliamentary approval for the AWACS unless the United States was more cooperative on the tank. They further objected to the Army's handling of the tank assessment as " . . . not quite fair and objective." They protested, essentially, the application by the United States of criteria geared to world-wide requirements to a tank which both intended to use primarily in Europe.²³⁴ Woerner called on United States officials to "look beyond the representations being made by industry and other vested interests, in regard to buying components for the XM-1."²³⁵

Secretary Brown sought to assure the Germans that the

United States had no intention of negating the agreement and did, in fact, plan to incorporate one of the 120s into the XM-1.²³⁶ Further, the evidence indicates that, by March 21, the Secretary of Defense was prepared to contradict the Army's interpretation of the test results. He did do so, finally, in response to a series of questions from the Senate Armed Services Committee.²³⁷

A final attempt by a German industrial consortium, DGA, International, to sell the Leopard II directly to the United States failed when they were unable to sell Secretary Brown on a direct purchase of 500 Leopard IIs (just enough to offset the German investment in the AWACS). Chrysler Corporation desperately fought this offer and, with Army support, was successful in convincing Secretary Brown to reject it. Chrysler reportedly feared that individuals in the Senate Armed Services Committee would jump on this offer in an end-around play. The offer was supported by Karl Damm, the German North Atlantic Parliamentarian who had, a year earlier, suggested that AWACS might be in trouble if the tank fell through.²³⁸

The cross-Atlantic sniping on the tank evaluation was (temporarily) calmed by yet a fourth agreement. The new agreement was an agreement not to disagree over the result of the evaluation. The United States acknowledged that the Leopard II could be produced within the design weight goal of 59.6 U.S. tons and the United States Army stated that they "at no time felt that Germany

engaged in deceptive practices; and . . . regretted that this impression developed." The main purpose of the agreement, however, was to reaffirm the commitment of both to "maximize standardization between their main battle tanks" and to "moving forward in unison to achieve this goal."²³⁹

The saga of the XM-1/Leopard II is, however, hardly over. DOD, having forced a decision on the Army, still is faced with implementing that decision. With a still strong and active ally in Mr. Stratton, the Army stands well above a 50/50 chance of stymieing the gun decision. In fact, the House reiterated their 1976 resolution on the gun in their report on the FY 1978 Authorization Act; their interest was to make the 1976 resolution a matter of law. They noted again the House belief that the 105 would better standardize NATO²⁴⁰ and noted opposition to the modified turret since it might prejudice selection of one 120 (i.e., German) over another (British) since the turret would be designed only for one of the 120 mm guns. Again, the House Armed Services Committee was aiming to stall the gun decision and to undercut the dual turret, both of which would undercut the cooperative program. The timing of the House action coincided with Leber's visit to Brown. Having reassured Leber and Foreign Minister Hans Dietrich Genscher in March, Brown was faced with Stratton's committee throwing some more marbles on the floor. The joint (fourth) agreement of May was, in part, a response to these

continuing actions by the House Armed Services Committee. Stratton was, however, not about to cool the pressure. The Senate argued against the House's amendment, but lost in conference; thus the FY 1977 Defense Authorization Act contained language almost identical with the 1976 House Armed Services Committee resolution on the XM-1.²⁴¹

As decision time for the gun approached, Stratton's tank panel issued clear warnings to the Army and DOD that a decision to settle on the German gun based on anything but the military capability of that gun would meet a hostile reception from the House Armed Services Committee. The resolution passed by the Committee in September 1976 required Congressional approval of any testing and evaluation of a 120 mm gun; this was also law now. An October 1977 report of the Investigations Subcommittee of the House Armed Services Committee (headed by Stratton) uncovered strong indications the the 120 decision would be made not on the merits of the gun, but on the basis of (a) the Addendum to the MOU of July 1976 in which the United States turbine was to be installed on the Leopard II, and (b) an offset "agreement" in which the Germans would support purchase of the United States AWACS for NATO if the United States bought the German gun.²⁴² The subcommittee also noted difficulties with the turbine engine (extra rehabilitation and maturity testing was ongoing to the tune of \$29.6 million). The subcommittee report noted that this extra

testing hurt the credibility of the Army²⁴³ in that the sub-committee had been assured in the fall of 1976 that the "turbine was not a high risk item and that its incorporation in the tank would in no way jeopardize the XM-1 production schedule."²⁴⁴

Finally, on January 31, 1978 the expected decision was announced. The Army had chosen the German 120 over the British 120 and United States 105 to install on future XM-1s, probably starting in 1984 (the first 1000-2000 XM-1s would have 105 mm guns mounted). Secretary of the Army Clifford L. Alexander noted that the British and German 120 guns were similar but that the German gun was selected because the Germans had more tanks than the British in NATO.²⁴⁵ Although this was sure to raise Stratton's ire, two editorials in the Economist built on the same logic the Army used in rationalizing the German over the British gun, e.g., that the United States and Germany have the largest tank armies and standardization on the German gun made more sense than standardization on the British gun. They also supported it as a means of gaining German support on the AWACS which the Germans had been holding up for two years due to the tank issue.²⁴⁶ The gun was to be produced in the United States (by the Army; no major civilian job or economic losses were expected) with the German manufacturer, Rheinmetall receiving a 3% royalty on each gun up to a maximum of \$25 million and a 5% royalty on XM-1s sold overseas to a maximum of \$25 million. The royalties would add a maximum of \$16,000 to

the cost of each tank.²⁴⁷ Mr. Alexander also noted that the Army now expected to buy some 7,000 XM-1s, double the currently planned 3,325. Nevertheless, Mr. Alexander hedged on the German gun, leaving open the way for the Army to change its mind; he emphasized the whole decision was contingent on further development testing and modification, scheduled to continue until 1978.²⁴⁸

According to testimony, the uniformed Army position on the tank gun mirrored the civilian position; General Walter T. Kerwin Jr., Vice Chief of Staff stated in response to a question from the press that "I assure you it was a decision of the uniformed Army."²⁴⁹

Apparently the only difficulty in the decision was the negotiation on licensing. Rheinmetall was pushing to build the first 1500 guns and 400,000 rounds of ammunition in West Germany.²⁵⁰ The Department of Defense realized, however, that the gun deal would have no chance at all unless all were produced in the United States. Undersecretary of the Army for Research and Development, Walter Laberge spent three days in Bonn in late January negotiating this issue and finally got German approval.²⁵¹

As expected, the decision touched off an immediate furor in the House Armed Services Committee. Stratton's tank panel began hearings on the issue and it became a major issue in the regular FY 1979 Authorization Hearings. In a fit of pique the House Armed Services Committee (as a whole) deleted \$8.1 million from the DOD budget for R&D on the 120 mm gun. Although the money was restored

by the Committee later (they supposedly had been awaiting results of Stratton's subcommittee's inquiry into the gun) this was only after extremely heavy lobbying.²⁵² Secretary of Defense Brown and other high Administration officials stressed that if the action were not reversed, it might undermine the Washington NATO summit set for late May.²⁵³ Stratton's subcommittee report, as expected, was critical of the decision.²⁵⁴ The subcommittee report concluded that:

- a. No test evidence demonstrates that the 120 mm is 'significantly better' than the 105 mm or ever will be.
- b. If the Russians fielded a tank that could defeat the 105 mm it would probably defeat the 120 mm as well because the difference between the two guns is not that significant.
- c. The 120 mm gun was justified to Congress on the basis that its greater capability 'might' be required to 'defeat an enhanced future threat.' But there is no reliable intelligence to support a conclusion that the Soviets are likely to field a tank that can defeat the 105 mm but not the 120 mm gun.
- d. Increases in armor penetration capability demonstrated in recent years are chiefly the result of breakthroughs in ammunition technology not gun development technology.²⁵⁵

Both Congressman Dickinson and Staffer Battista blasted the Army during hearings for the political nature of the 120 mm decision. Battista argued:

If you want 120 mm gun because it provides standardization, then come up here and say it. Don't come up here and give an argument about how the 120 is better than the 105 gun when in fact the data doesn't support the 120.

You have to impress upon them the requirement to tell it the way it is and have a good exchange of information and total honesty. As it stands, the Congress is often viewed as the adversary of the DOD. We have a common adversary. And it's not each other. Only through a closer relationship will we get there.

Mr. Dickinson. Now that is fine. I can't fault anything that you say except in practice. We had the Army coming up here year after year saying the 105 was the gun. It was their tank. They knew what the requirements were. They did not want the

extra weight. They did not want the extra size. It was adequate for their needs. They did not want the extra expense. The 105 was their choice. Then all of a sudden it was not their choice anymore. Then the same people that were defending the 105 are embarrassed because they go back to the drawing board and have to defend the 120 and repudiate everything they've told us. They told us privately they are embarrassed to come up here because we have to take the other side of the table.²⁵⁶

In a show of strong support for standardization, the Senate Armed Services Committee never challenged the 120 mm program and, in fact, increased the authorization for R&D to \$46.5 million (an increase of \$37.5 million over the original requested) in response to a change in the Army's requirements.²⁵⁷ In conference, the Senate prevailed as some \$35.6 million was authorized. Senators Nunn and Culver both were members of the conference committee and surely were major forces supporting the 120 gun.²⁵⁸

The House Appropriations Committee, in its report, supported the 120 mm gun, but told the Army it objected to spending up to the \$84.1 million then estimated as the ultimate R&D cost for conversion since the conversion was, they argued, a German responsibility according to Addendum 1 of the MOU of July 28, 1976.²⁵⁹ As a result, they authorized only the \$8.1 million originally requested and refused to appropriate the extra \$37.5 million now being requested by the Army and which the Senate Armed Services Committee had authorized. The Senate Appropriations Committee, however, did not agree with the House Appropriations Committee and appropriated the full \$35.6 million which, by then, had been authorized.²⁶⁰

In conference, the Senate's position again prevailed, as the full \$35.6 million was appropriated.²⁶¹ Thus the Army got the money it wanted for the conversion, but only over strong opposition, especially from, once again, the House Armed Services Committee.

In a major reprogramming battle that same year (an attempt to reprogram \$10.9 million of FY 1978 funds to start R&D on the gun in FY 1978) the same patterns held. Stratton's Investigation Subcommittee (of the House Armed Services Committee) held four days of hearings, a major effort for a relatively small amount of money. Although the subcommittee approved the reprogramming in the end, it was only after they challenged the entire program and applied stringent qualifications to it. They resisted the setting of any firm date for the conversion, noting that it should occur (if at all!) only "when the 120 has demonstrated its capability."²⁶² The subcommittee also expressed their belief that the program would cost much more than the \$84.1 million estimated by the House Appropriations Committee. The subcommittee estimate was between \$1 and \$2 billion over the life of the program.²⁶³ They also noted that they believed that the program was largely symbolic and criticized the degree to which the gun was to be Americanized during the conversion (see the Roland case study--the problems caused by Americanization of the Roland were developing at about this time).²⁶⁴ The subcommittee's eight conditions, as approved by the whole committee, were:

1. Committee approval of the reprogramming request constitutes approval only for initiation of a limited research and development program. It implies no approval of the complete program proposed by the Army.

2. Committee approval is also contingent upon implementation of XM-1 production in accordance with the schedule endorsed by OSD to field 7,058 XM-1 tanks by 1987. XM-1 production with the 105 mm gun must not be slowed or delayed because of a separate parallel program to develop the 120 mm gun.

3. The committee does not support the establishment of a fixed target date for fielding an XM-1 with a 120 mm gun. Given the uncertainties outlined above, the establishment of a fixed target date at this time would be premature.

4. Before the committee can approve additional funding for the 120 mm the Army and OSD must demonstrate the degree to which the program is being funded in addition to rather than at the expense of other Army programs previously approved.

5. Paralleling the 120 mm program, the committee expects the Army to conduct a vigorous program to exploit the full growth potential of the 105 mm gun system demonstrated in the 1977 trials. In the judgment of the committee, this program has greater impact on NATO readiness capabilities and is of higher priority than the 120 mm development program because of the large number of 105 mm tanks in the NATO inventory.

6. Before the committee will approve funding, the licensing agreement with the FRG manufacturer must be concluded and its details conveyed to the committee. The committee believes there should be no provisions in the licensing agreement which would restrict the ability of the U.S. to sell or coproduce a complete XM-1 tank and gun to any NATO country.

7. The committee will not support or fund a gun program where work on the gun breech is contracted out while an in-house capability to manufacture it exists.

8. The committee questions the proposed development of an Americanized version of the German production round as interim ammunition for the 120 mm gun. The only way in which the 120 mm program can be justified is that it will provide significantly greater capability than is achievable with the 105 mm gun it will replace. The 105 mm growth potential round has already demonstrated that it will be far more effective against advanced armor targets than the interim 120 mm round the Army proposes to develop. The committee can see no logic in spending \$500 million to field a system less capable than the one it replaces. The committee directs that the Army review the decision to initiate an ammunition development program and inform the committee as to the results of the review prior to the expenditure of any funds for ammunition development. 265

The House Appropriations Committee was less receptive, however, and using a rationale similar to that used before, refused to approve the reprogramming.²⁶⁶ The Army reclaimed this decision but apparently with no success.²⁶⁷

A number of articles and reports in the press during 1978-1979 illustrate the continuing conflict over the gun. An Armed Forces Journal, International article illustrates again the de-standardizing effect of the 120 mm gun. As they pointed out, 70% of NATO tanks currently carried the 105 (1978 data). Further, the United States, by 1984, would have some 13,500 tanks, of which 13,000 would mount the 105. Thus the incoming XM-1s with 120s would not be interoperable with the main tank force of NATO nor of the United States.²⁶⁸

The linkage issue also resurfaced as United States procurement of the 120 mm gun was linked to German support of the NATO procurement of the United States produced AWACS. While most official sources denied the linkage, it was clear that the two were indeed linked. As Armed Forces Journal, International pointed out, in spite of official disavowals by the German Defense Ministry of Mr. Damm's AWACS/Leopard II linkage during the March 31, 1976 Senate Armed Services Committee hearing, the Germans broke off negotiations during October of 1978 which were supposed to finalize the AWACS agreement because the gun was not explicitly included in the package.²⁶⁹ Another article, this in the Baltimore

Sun, noted that the AWACS package called for Germany to contribute 30.7% of the cost of 18 AWACS aircraft being purchased for NATO in exchange for the United States buying 9,000 vehicles, a new \$220 million German-produced telephone system for United States troops stationed in West Germany plus the \$50 million in licensing fees which would come from the licensed production of the 120 mm gun in the United States.²⁷⁰

Interestingly, one of the few public officials who did not deny the linkage was then Defense Secretary Brown's special advisor for NATO Affairs, Mr. Robert Komer:

It is about time we openly acknowledged that a linkage of reciprocal purchases is in the best interest of the Alliance. This is a fact of life which it will do us no good to deny. AWACS and the smoothbore 120 mm tank gun are linked in FRG eyes, and should be in our eyes too. We should say so, instead of letting hostile elements in Congress.²⁷¹

The conflict continued (although at a lower level) through 1979 especially in the FY 1980 Authorization Hearings. Battista again contended that DOD and the Army were lying regarding who made the decision in favor of the German 120. Battista contended that civilian authorities made the decision and the uniformed military was then forced to reaffirm it. The civilian Army and DOD authorities as well as the uniformed military all denied that this was the case and claimed, on the other hand, that the military had made the decision.²⁷² The House Armed Services Committee, irritated by these political issues and also by the continued Americanization

of the German gun, decreased the Army's FY 1980 request by some \$3.7 million.²⁷³ The Senate Armed Services Committee, however, supported the full amount requested by the Army.²⁷⁴ No other significant issues developed during the rest of FY 1980 hearings.

However, 1980 (FY 1981) was a different story. The House Armed Services Committee, as it had done the previous year to the Roland, deleted the entire \$61.492 million requested for the gun R&D and conversion and voted to kill the entire 120 mm gun program, arguing:

The Federal Republic of Germany (FRG) designed and developed a 120 millimeter (mm) gun for use on its Leopard II tank. Under the tank gun cooperative development program, the United States is in the process of adapting the FRG design in order to integrate the 120 mm gun on the XM-1 tank.

The committee recommends against the continued development of the 120 mm gun because of the recent increase in the research and development program of over \$70 million, the high total program cost for the 120 mm gun and ammunition program of over \$2 billion, the inability of the United States and our NATO allies to reach an agreement on the 120 mm ammunition development program and lastly, the recognition that the 105 mm is an effective anti-tank weapon out to militarily useful ranges.²⁷⁵

Part of the House Armed Services Committee's opposition stemmed from failure by the Germans to keep their half of the bargain and mount the United States' Chrysler turbine on the Leopard II. This issue is discussed below. In the meantime, the Senate Armed Services Committee voted the full amount, thus shifting the battle to the conference committee.²⁷⁶

Although the conference committee expressed some

reservations with the program, they did ultimately authorize the full amount and thus revived the program:

The conferees agreed that if the Army will develop and submit a plan approved by the Secretary of Defense to the Congress describing how cost savings of \$600 million in life cycle costs will be obtained through efficient training practices, then the 120 mm tank gun development program should continue.

Future support for this program can be expected to the extent that:

Development costs of the 120 mm gun and ammunition do not increase.

The Federal Republic of Germany and the United States reach a firm agreement on the procurement of common ammunition coupled with the actual system for incorporating the ballistic data in the tanks that will in reality provide each side with the ability to effectively fire common 120 mm ammunition.²⁷⁷

Their qualification, in its final form, follows:

RESTRICTION ON FUNDS FOR DEVELOPMENT OF THE 120-MILLIMETER TANK GUN

Sec. 206. Of the amount authorized to be appropriated for the Army by this title, not more than \$62,061,000 is authorized for development of the 120-millimeter tank gun. However, none of such funds may be obligated or expended for development of such gun until (1) the Secretary of the Army prepares a plan on how the lifecycle costs for incorporating the 120-millimeter gun into the tank force of the Army can be reduced by \$600,000,000 through efficient training practices, (2) the Secretary of Defense approves such plan, and (3) such plan is submitted to the Congress.²⁷⁸

Of significance were the members of the committee. Both Nunn and Culver, strong supporters of standardization in the Senate, were members while Congressman Stratton, the major tank expert in the House and an opponent of the 120 mm gun program and of standardization in general, was not a member of the conference committee, thus once again, illuminating the importance of personalities in this policy arena.

Although the program continues, my contention is that the XM-1 will never carry a 120 mm gun. While DOD expects that the "bulk of the XM-1s will carry the 120 mm design gun," implementation of that decision is far from guaranteed.²⁷⁹ As Major General Richard Bowman, Director of European and NATO Affairs, Office of the Assistant Secretary of Defense for International Security Affairs noted when asked if all the XM-1s were going to have the 120 mm guns: "Eventually they may." I am even less optimistic.²⁸⁰ My pessimism was reinforced by comments of Mr. Edward R. Jayne, then Deputy Director of OMB for National Security and International Affairs. He noted that although OMB had tried long and hard to get the 120 on the tank, he felt it was a dead issue.²⁸¹

The turbine engine also received attention during this period with the House attempting to undercut it in 1977 during the FY 1978 authorization cycle. This time the House added

. . . \$10 million to continue development of the AVCR 1360 diesel engine This reflected House concern that the Army might be taking an unnecessary risk in the XM-1 program by terminating development of diesel technology before the turbine has fully proved itself.²⁸²

Debate over a similar provision in the Senate, proposed and supported by Senator Griffin (R-MI),²⁸³ showed the strong support in the Senate for standardization as the provision received little support (even Senator Goldwater (R-AZ) who opposed most standardization projects--see the Roland study--opposed it) and strong hostility, especially from Senators Nunn and Culver who argued

against it on the basis of its effect on standardization. As Nunn noted:

It is no secret that many elements in the Army, from the beginning, have resisted the consideration of interoperability and standardization with the German Leopard II as the possible U.S. main battle tank of the future, and they continue to resist even compliance with the addendum of the 1974 memorandum of understanding.²⁸⁴

Fearing defeat for the amendment, Griffin withdrew it, hoping the House amendment would survive the conference committee. However, it failed there also:

The Senate conferees were adamant in their opposition to the diesel engine. The House, therefore, reluctantly recedes, but urges the Army to find the necessary funds within the budget to continue development of the AVRC 1360 diesel engine until such time as the turbine has fully proven itself in development.²⁸⁵

Both Appropriation Committees indicated support for the continued development of a diesel engine, but, because of the lack of budget authorization, could not appropriate money. However, they both encouraged the Army to find its own money to continue R&D on an advanced diesel engine as a backup to the turbine.²⁸⁶

During the FY 1979 cycle, both Appropriations Committees expressed their anger at the failure of the Army to continue development of the diesel engine as they had directed and proceeded to appropriate \$3 million for that R&D. Also, during this FY 1979 cycle, procurement of the initial production run of 110 tanks was authorized and the money for it appropriated.²⁸⁷ Other hearings during the 1978 cycle examined in some detail (and often in a

clearly hostile fashion) the entire tank program.²⁸⁸

Some of the Congress' pessimism apparently was warranted as severe problems with the engine surfaced during late 1978. A series of articles and press reports revealed the extent of these problems and the steps being taken to resolve them. The problems led the GAO (in early 1979) to urge the Army to defer a production decision. The GAO noted that the XM-1 "falls short of meeting some of its critical design requirements" and argued that it would be "preferable to defer the initial production decision until there has been a demonstration through further testing that design changes and modifications have indeed corrected the problems."²⁸⁹ The Secretary of Defense, however, did not heed the GAO's warning and in May of 1979 permitted the Army to proceed with the initial production run of 110 tanks as authorized by Congress in 1978 (the FY 1979 Authorization and Appropriation noted above).²⁹⁰

These continuing problems caused an angry response from Congress with more attention devoted to development of the backup diesel engine by all the committees. The Army resisted this pressure, arguing that the turbine engine was proceeding satisfactorily; Congress was less optimistic.²⁹¹

The GAO, in early 1980, once again questioned the capabilities of the engine, again recommending that the Secretary of Defense limit tank procurement to a low-level rate and that he initiate a full-scale diesel engine development program if an evaluation

panel formed by the Secretary and currently evaluating the tank "express sufficient reservations" about the turbine engine.²⁹²

However, prior to public release of the GAO report (the Secretary of Defense certainly knew of its contents prior to public release as the Department of the Army had been asked to review the study in its early stages) the Secretary, in January of 1980, approved full-scale production of the tank. This authorized ultimate production of 7,058 tanks by the late 1980s. Cost of each was estimated to be \$900,000 initially with an increase in cost to \$1.5 million by 1985 due to inflation.²⁹³

The first tank came off the production line in late February 1980 and was christened the "Abrams" in honor of and by the wife of the late General Creighton W. Abrams, the tank commander hero of the Battle of the Bulge.²⁹⁴ Thus ended the 23 year effort to produce a new main battle tank for the United States Army. However, sniping was to continue, especially from the House Armed Services Committee, during the FY 1981 Authorization Hearings, as the committee continued to try to force the Army to proceed with development of a diesel engine for the tank.²⁹⁵ Although no new money was appropriated for FY 1981 for the diesel engine, the Congress (elements thereof) will certainly continue to put pressure on the Army.

The latest House opposition was probably fueled also by the final irony of the whole XM-1/Leopard competition. That was the

German decision not to mount the Chrysler turbine engine on their Leopard II. The United States, having switched from a diesel to a turbine engine for the XM-1 specifically to provide an item which could be used in a trade with the Germans for purposes of interoperability (recall the earlier argument often heard in Congress and the Army, that the Army had originally chosen the GM tank with a diesel engine only to be forced to reverse the decision in favor of Chrysler with its turbine in order to have a unique engine to offer the Germans--the Germans would certainly not buy a United States diesel over their Mercedes diesel)²⁹⁶ was left with (a) an engine which was experiencing serious developmental problems, and (b) one which was not standard with the engine on the Leopard II nor with other United States tanks. The Germans apparently felt that the United States engine did not offer sufficient growth for their purposes plus had too high of fuel consumption, and thus chose to mount the Mercedes diesel on the Leopard II.²⁹⁷ This development did not make opponents of standardization in Congress any happier and, as noted earlier, it fueled (and will continue to fuel) their opposition to the United States going ahead with procurement of the German 120 mm gun. This certainly played a part in the House Armed Services Committee's attempt to kill the 120 mm gun program in 1980.

Thus, although the engine issue probably is dead--the Army is committed to the turbine, it appears to be working reasonably well now, and too much money has been sunk into it to back out

now unless new difficulties should develop. However, the problems, both technical and political, encountered will be powerful ammunition for opponents of standardization. The 120 mm gun will, in my opinion, be one victim of these problems.

United States-British-German Attempt

Thus, some 24 years after the first agreement to cooperate in developing a main battle tank, the United States and Germany have compromised on a few standard components and may someday use a common gun--if successful, this may come about by the mid-1980s, another four years hence. The intervening 24 years have witnessed three major attempts at total cooperation, each starting out as a joint cooperative project and then breaking down into an agreement to try to harmonize subcomponents; the latest effort being the only one meeting any success and that limited and due only to intense and continuing political pressure from above. The moment that attention is diverted, as the past has shown, the Army, with House support, will be able to go their own way, frustrating implementation.

Yet the United States-German experience is not unique. A program similar to the XM-1/Leopard II cooperation was ongoing between Germany and Britain during the same time frame. The program was designed to develop a Future Main Battle Tank (FMBT) for the 1990s, to replace the British Chieftan and the German Leopard II.

Started in 1970, it soon died a death like all the other attempts to cooperatively develop tanks.

An article in the Economist illustrates the problems this cooperative program encountered, most of which were similar to those with the XM-1/Leopard II program: The Germans, with a large conscript Army and experience with tank battles during World War II in Russia, emphasize speed and mobility over armor protection. The British with a small volunteer army and experience in tank warfare in North Africa and Normandy (where lack of protection led to many tanks "brewing up") are geared towards a slower "slugfest" type battle at close ranges where protection is more important. The difference in doctrine leads to differences in weight. By 1973, preliminary proposals by each led to tanks differing in weight by five tons or so. Nevertheless, both were willing to try to compromise on their differences, combining British firepower and armor with German speed and maneuverability.²⁹⁸

In mid-1975, several press reports suggested that the British-German collaborative effort was to be expanded to include the United States.²⁹⁹ Sources noted that the United States was being included in negotiations between Germany and Britain. But at the same time, an air of pessimism surrounded prospects given the realization of the role national pride would play in any such decision.³⁰⁰

The chances of the three-way cooperative effort succeeding were certainly tested by the failure in 1975 of the gun competition

to identify a single gun for future tanks. And the failure of Britain to support the German 120 mm gun and, her development of a 120 to compete with the Germans further soured the picture.³⁰¹

As might have been expected, by 1977 the cooperative agreement fell apart with, once again, nothing left but "an agreement to 'harmonize components' if possible."³⁰² Officially, the reason given was diverging timetables for replacement. But other factors noted were British unreliability as evidenced by decreasing defense budgets and cuts in the MRCA Tornado program, the 120 mm gun controversy and some differences over sales of tanks to Iran (the Chieftain versus Leopard).³⁰³

This ended the fifth or so in a long line of attempts to standardize NATO tanks. As one NATO official put it:

You know, it really would be more convenient for us all if we acted more like the Soviet bloc and all our members were forced to use the same type of weapons But we can't very well do that, can we? After all, our individual freedoms are what we're fighting for.³⁰⁴

Conclusions

Cooperation in the development of tanks is one logical area in which the two-way street could become a reality. European industry, weak in some areas due to fractionalization, can clearly compete in tank technology. The Leopard II thus presented an excellent opportunity to demonstrate that the two-way street was really that. Unfortunately, insistence that the Leopard II be

"clearly" superior to any United States tank was a sure way to kill the program. As one United States official noted, ". . . with such a complex machine it is more likely that one tank will be better than the other in some aspect but inferior in other matters. Thus 'clearly' is a word hard to define."³⁰⁵ Unfortunately for standardization, another opportunity similar to the tank will not likely come along for years. While European industry could clearly compete in this area, insisting that the competition be conducted on technical grounds made a clear decision impossible.³⁰⁶

But was a political decision in favor of standardization any more possible? Probably not. Recognizing that weapon procurement decisions, as distinct from security issues, are structural or low political decision, no other outcome was likely. In fact, the tank decision has been remarkably "high" in some respects, largely due to the intense interest and involvement by levels of the government for which high or strategic issues are dominant (DOD, the Senate Armed Services Committee). Nevertheless, they were operating on ground familiar to low-interests, who fought them every inch of the way. In this light, the resulting compromise was actually a victory of sorts for proponents of standardization (witness the total failure of every other cooperative tank project over the years), but one which is unlikely to be repeated without continued and intense high-level interest.

This does not however, answer the why of the low opposition.

As has been noted several times domestic jobs were not likely to suffer (in spite of the fact that opponents of the standardization tried to reinforce that belief on several occasions). The only losers were likely to be the corporate structures themselves, and then only to a limited extent, for they would conduct the actual production. The shift of the tank contract from GM to Chrysler did cause some overall job shifts with the United States (due to the shift from a Michigan manufactured diesel to a Connecticut manufactured turbine), but the opposition was broader than this alone would explain. As an article in the Wall Street Journal notes, the economic factor is a false issue; rather "national pride and a long record of hostility to weapons 'not invented here'" are cited as the real underlying factors.³⁰⁷ And as the New York Times has pointed out, in areas in which any country has a well established industrial base, accepting another country's design over her own has serious implications for national pride and will be resisted across parochial internal industrial lines. This applies also to the services. While a tank is just a tank to most people, to the Army it "is as much a status symbol as the aircraft carrier is for the Navy and the manned strategic bomber is for the Air Force." In short, "The Army was not about to adopt a tank it had not developed itself."³⁰⁸ And as Aviation Week noted, "The Leopard/XM-1 competition is a burning issue in both the United States and German armies. 'It is a terrible gut issue because the

[United States] Army will fall on its sword before it will accept a German tank.'"³⁰⁹ On the other hand, the Germans would likewise not have been happy about accepting a United States tank considering their history of excellence in developing armor.³¹⁰

The attempt to sell the Army on the Leopard II was not made any easier by Germany's refusal to compete equally. As one House staffer asked, why should we make it easy for the Germans to sell us the Leopard II when they won't consider the XM-1? As a result, he argued since it was not to be a NATO tank (i.e., built to common NATO requirements) but rather a United States tank, then the German tank ought to compete against United States requirements, a sentiment widely shared in the United States Army. This of course, ignores the larger issue: that is, what is most important on a military level--a tank with which the United States Army is comfortable because it is built to their specifications, requirements and doctrine or one which is standard with other NATO tanks? This issue was not addressed in the hearings or debate.

The reasons for Army opposition thus clarified, the question remains how one segment of the government (and a relatively small one) was able to stand up to the rest of the system. The sub-government phenomenon explains that quite clearly. Although the Senate Armed Services Committee and the Senate as a whole (usually) plus the entire administration, including the Department of Defense (although some DOD loyalties seemed to shift sides of the fence

regularly) and (although to a lesser degree) the civilian leadership of the Army were pushing the cooperative tank strongly, elements of the Army, in cooperation with the House Armed Services Committee, and specifically, two sub-units of the House Armed Services Committee--the Investigations Subcommittee headed by Representative Stratton and the XM-1 Tank Panel headed also by Stratton--were able to fight a credible and largely successful battle.

To understand how, one needs to understand a bit more about Stratton. Stratton was put in charge of the Army tank program by House Armed Services Committee Chairman L. Mendel Rivers in the 1960s; tanks became his fiefdom, and at a very critical time. Stratton watched the MBT program fail due to technological problems and cost overruns, all tied into the problems inherent in international cooperation. Stratton finally helped put the MBT-70 to bed. The XM-1, a pure United States project on the other hand, was running smoothly, well within cost and time criteria. Then came a challenge, or at least something perceived by both Stratton and the Army as a challenge. Thus Stratton's opposition was not as much to the Leopard II itself as it was to the challenge and likely problems a cooperative program posed to a very successful, to this point, United States program. The Army, although opposing the Leopard II for broader reasons, also shared Stratton's concern over the well being of the XM-1 program. Industry's concern was

obvious, although the collusion one might expect to see was more tacit; i.e., one of perceived shared interests rather than one of overt cooperation. Industrial pressure was directed more towards the Army, where the contacts existed on a day-to-day basis and, again, were more of a tacit, shared nature than one of open collusion.

Stratton's unique role is similar to that played by many Congressmen, especially throughout the House Armed Services Committee; i.e., that of a trusted expert and cue-giver. Stratton's position and expertise were respected and generally supported by the entire committee and to a significant extent by the whole House.

The role of House members can be contrasted with the role of Senators interested in the program. On one hand, Senators Nunn and Culver were almost oblivious to Army concerns over the tank. They were playing a pure high political game. Senator Bartlett, the tank enthusiast and expert on the Senate Armed Services Committee was, on the other hand, more concerned with the effectiveness of the tank, although, again on strategic or high policy level.³¹¹ Unlike Nunn and Culver, for Bartlett, the symbolic aspect of standardization, while crucial, had to be balanced against the question of military effectiveness of the tank. Thus Bartlett was less a blind enthusiast of the tank cooperative development program and did tend to support the Army on several occasions.

In contrast then, Stratton and Bartlett were both well versed on tanks, but with a critical difference; Stratton was a specialist in a crucial position--on questions of tanks, the House as a whole tended to defer to him. Bartlett was a generalist in a committee where structural questions were less important than the strategic questions.

Turning back to the Army, it is necessary to view their opposition also in the context of the broader United States political situation. The Army saw itself (as several House staffers noted) as a sacrificial lamb, being set up by the Air Force and DOD. In its view, one reinforced by events such as the RAND publication noted earlier, the Army was being forced to bear the brunt of standardization, accepting a German tank so that the DOD, the Air Force, and aerospace industries could continue to hold on to their share of the European aircraft market; e.g., the AWACS sale. As was noted by these staffers, much of the pressure on the Army, although coming from the purple-suited and civilian elements of the DOD, was really Blue Suit (i.e., Air Force). The general heading ISA's NATO Directorate (the focal point for DOD standardization policy) was Air Force, as was the general running the AWACS program. As these staffers noted, and as I noticed in some conversations with Army staff, the Army was almost paranoid.

Finally, the tactics of the opposition: The Army, as noted by the New York Times, very skillfully played the game of delay:

"In the opinion of some Pentagon observers, this abortive exercise in cooperation demonstrates how the United States Army's staff can get its way by waiting out the terms of civilians who serve as Secretary of Defense, as they come and go at the Pentagon."³¹² Likewise, they recognized the limited attention which DOD and the administration could provide standardization and realized that a delay in implementing a decision for which there was high visibility could often negate the decision. While it didn't work on the gun (at least so far), it has made it possible to further defer actual mounting of the 120s until possibly 1985. By that time, the delay tactic may have worked.

The Army has also been quite successful at undercutting DOD decisions; especially note the very rapid qualification that the German tank need not only be better than the United States tank but "clearly" so, a qualification which made a clear decision impossible. The Army's setting up of specifications against which the Leopard II was to be tested also weakened any chance the Leopard II had to "win."³¹³

In sum, while the XM-1 is a unique case in some respects, the lessons learned from it can be applied more broadly and are important to future standardization efforts.

Footnotes

¹U.S., Congress, House of Representatives, Committee on Armed Services, Delays in the XM-1 Program, Hearing before the Committee on Armed Services and Hearings before the XM-1 Tank Panel of the Committee on Armed Services, House of Representatives (HASC No. 94-66), 94th Cong., 2nd Sess., August-September 1976, p. 5.

²Brooke Nihart, "Armor for the 1970s," Armed Forces Journal 107 (May 16, 1970): p. 21. While this was apparently the first agreement to standardize tanks to which the United States was a party, a year earlier, France, Germany and Italy had tried to standardize on a single MBT. Different requirements, time scales and budgetary considerations also wrecked this attempt very quickly. The Italians opted for purchasing United States M-60s while France and Britain went on their own route. See Martin J. Miller, Jr. and Konrad F. Schreier, Jr., "The U.S. Main Battle Tank--Today and Tomorrow," International Defense Review 6 (December 1973): 760.

³The idea of a competitive runoff between the XM-1 and Leopard II came rather late in the game and hence had an uphill fight from the start.

⁴Mr. Justus P. White, Professional Staff Member, House Armed Services Committee, interview in Washington, D.C., September 26, 1977.

⁵As they noted, most gun advancements have come through improvement of projectiles, rather than by changing the size of the gun. This is a complex issue, however, and will be dealt with later.

⁶Homer Johnstone, "Technology Transfer from NATO to the United States Army: An Assessment," (Ph.D dissertation, The George Washington University, School of Government and Business Administration, September 30, 1975): 105-107.

⁷Nihart, "Armor for the 1970s," p. 21. The form and substance for these two agreements is interesting, especially given their ultimate failure. For, in 1974 and then in 1976, an almost identical scenario, including virtually carbon copies of the earlier agreements was repeated as the United States and Germany, once again, tried to standardize on a NATO tank.

⁸Scott McDonald, "Why United States-German Main Battle Tank is an Excellent Example of Cooperation," Armed Forces Management 13 (January 1967): 54, quoted in Johnstone, "Technology Transfer from NATO," p. 113.

⁹U.S., Department of Defense, Memorandum for Record, "Lessons Learned-From Program Manager Viewpoint," United States Army Materiel Command, Project Manager's Office, Main Battle Tank, Brig Gen B. R. Luczak (USA, Ret), June 27, 1972, p. 2, quoted in Johnstone, "Technology Transfer from NATO," p. 114; See below for Army admission that, in effect, these world-wide requirements were not valid since the MBT (or rather, the XM-1, its follow-on) was intended primarily for use in Europe.

¹⁰Johnstone, "Technology Transfer from NATO," p. 115. An almost identical development was to occur with the XM-1 ten years later when the House attempted to shortcircuit the agreement to standardize the XM-1 engine by going ahead with development of a separate, de-standard engine in the United States. See below.

¹¹Nihart, "Armor for the 1970s," p. 21.

¹²Johnstone, "Technology Transfer from NATO," p. 116.

¹³David C. Hardiston, "International Cooperative Programs for Acquisition of Military Systems: What Participation Is Best for the United States?" unpublished individual research paper, The National War College, September 30, 1972, p. 89. quoted in Johnstone, "Technology Transfer from NATO," pp. 116-117.

¹⁴Original estimates had the tank at 35 tons--final estimates were as high as 55 tons; see Johnstone, "Technology Transfer from NATO," p. 118.

¹⁵Ibid., p. 123.

¹⁶Memorandum for the Record, "Lessons Learned," Brig Gen Luczak, quoted in Johnstone, "Technology Transfer from NATO," p. 124.

¹⁷Johnstone, "Technology Transfer," pp. 128-130.

¹⁸ Especially Senators Eagleton (D-MO) and Hatfield (R-OR) in the Senate and Congressman Stratton in the House where Stratton headed up the first of many hearings on the tank from his House Armed Services Committee, Investigations Subcommittee post.

¹⁹ Johnstone, "Technology Transfer," pp. 132-133.

²⁰ See Walter Andrews, "Major Investigation of MBT-70 Program," Armed Forces Journal 106 (September 21, 1968): 16-17. He notes here that Defense Offices attribute increases in MBT Research and Development funding to three causes: (a) Additional time required for development due to inadequate analysis in the beginning, (b) increases due to construction of backup components by each country as "hedges" against failure of the program, and (c) changes in military characteristics and modification to major components, in many cases due to the inability to agree as noted above—essentially these are changes due to compromises on requirements.

²¹ Ibid., p. 16.

²² Dana Bullen, "Critics Get Study of Supertank," Washington Star, August 9, 1969, p. 1. Other sources indicated a shift from 50/50 to somewhere between 60 to 75% supported by the United States; See Warren Weaver, "Tank Fund Halted for Study," New York Times, August 9, 1969, p. 2. See also Aerospace Daily, December 1, 1969 where reports of German cuts in total number of MBT-70s it wanted are noted; from 1500 to 1000, thereby increasing the United States' share of development costs.

²³ Weaver, "Tank Fund," p. 1.

²⁴ Nihart, "Armor for the 1970s," p. 21.

²⁵ U.S., Department of Defense, Press Release, "Main Battle Tank Development Program Reoriented," Washington, D.C., January 20, 1970, quoted in Johnstone, "Technology Transfer from NATO," p. 135.

²⁶ Nihart, "Armor for the 1970s," p. 21.

²⁷ Incidentally, approximately a year before, the program managers had decided to scrap the United States engine for a German engine because the United States engine had been unable to attain the horsepower the Germans required (1475 hp). What effect

this had on hastening the program's end is unclear. Interestingly, the new United States tank (XM-803) was to revert to the rejected United States engine as United States requirements were derated to a lower horsepower; again, technology may have been driving requirements as the German engine happened to just meet the 1475 hp which the German's "required" and the United States engine just met the new United States "requirement" of 1250 hp.

²⁸"MBT-70 Killed," Armed Forces Journal 109 (February 1972): 19.

²⁹Ibid., p. 19.

³⁰The first figure was presented by the Army to the House Defense Appropriation Subcommittee in February of 1972 according to the New York News, April 7, 1972, p. 14; The later figure was reported by Brooke Nihart, "Main Battle Tank Still in Trouble with Congress, OSD," Armed Forces Journal 108 (June 21, 1971): 36. A later article in the same journal estimated final costs at \$287.2 million: Thomas C. Steinhauser, "Many Tanks," Armed Forces Journal, International 111 (August 1974): 30.

³¹See Johnstone, "Technology Transfer from NATO," p. 197.

³²"Main Battle Tank Rethink," International Defense Review 5 (June 1972): 230-231.

³³"XM-1 Competition Underway," Armed Forces Journal 110 (April 1973): 18.

³⁴The winner could be the pure prototype of the winning contractor or might be a hybrid, depending on the outcome of the competition.

³⁵Major General William R. Desoby, Commander of the Army Armor Center, head of the XM-1 Design Team, as quoted by Drew Middleton, "Army Tank Designers Seek Simplicity and Reliability," New York Times, March 5, 1972, p. 32.

³⁶Ibid., p. 32; At this point, both the 105 mm and the 120 mm guns were considered contenders. The prime 105 mm contender was the gun developed by the British and currently on the M-60. The

120 mm gun could come from several sources although the German 120 mm gun being developed for the new Leopard II was a prime contender. The fact that both a 105 and a 120 were equal contenders at this time becomes significant later.

³⁷ As early as January 1973. See Drew Middleton, "Plans for Unprecedented Battletank for 1980s," New York Times, April 24, 1973, p. 6.

³⁸ Ibid. Ironically, as noted earlier, the same size engine was planned for the MBT-70, but could not be achieved so GM turned to the German engine. Now such an engine was with United States technological capabilities and Army requirements were changed to incorporate that engine. One can only surmise, but it is likely that had the 1500 hp United States engine not been available, requirements would have been reduced to whatever was available before turning to the German engine again.

³⁹ U.S., Department of Defense, "Army XM-1 Tank Contract," News Release No. 325-73, Office of the Assistant Secretary of Defense for Public Affairs, June 28, 1973.

⁴⁰ Middleton, "Plans," p. 6.

⁴¹ See Aerospace Daily, June 1, 1971; Armed Forces Journal 108 (June 21, 1971): 36; Harold Jackson, "Tanks for the Memory," Manchester Guardian, April 15, 1972.

⁴² Jim Adams, "Tank Costs Almost \$1 Million," Washington Post, July 5, 1973, p. F-5.

⁴³ According to several publications, three engines were under consideration: An AVCO-Lycoming Turbine (Chrysler), the Teledyne Continental Variable-Compression-Ratio diesel (GM), and a Daimler-Benz diesel (offered by West Germany). The German engine, in spite of its 1500 hp rating (the required size for the XM-1) was never seriously considered. Rather, Chrysler pursued its turbine and GM its diesel. Ironically, GM's diesel was the one rejected late in the MBT-70 program in favor of the Daimler-Benz diesel. The reason then was the Teledyne Variable-Compression-Ratio diesel was not capable of operating at the 1475 hp desired for the MBT; apparently now it had been upgraded. See Armed Forces Journal 110 (April 1973): 18; Armed Forces Journal International 110 (July 1973): 22 and Nihart, "Armor for the 1970s," p. 22.

⁴⁴Steinhauser, "Many Tanks," p. 30-31.

⁴⁵"Army Details XM-1 Cost," Armed Forces Journal, International 111 (October 1973): 98; See also, "Chrysler, GM Win Tank Prototypes," Armed Forces Journal, International 110 (July 1973): 22.

⁴⁶"Chrysler, GM Win Tank Prototypes," p. 22.

⁴⁷Ibid.

⁴⁸According to General Baer, the Army MBT task force had evaluated the Leopard II once already in 1972 (in its conceptual stage) as they began looking into the XM-1 requirements. It was judged at that time "unacceptable primarily because of high cost and high risk in meeting firepower and survivability requirements." Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 6, March 17, 1975, p. 3181.

⁴⁹Ford Motor Company also proposed a United States version of an Israeli tank--the Army likewise rejected it as too heavily armored, and hence, too immobile; "Chrysler, GM Win Tank Prototypes," p. 22.

⁵⁰U.S., Department of Defense, Memorandum of Understanding between the United States of America, represented by the United States Department of the Army and the Federal Republic of Germany, represented by the Federal Ministry of Defense concerning the Harmonization of the U.S. Tank XM-1 and the FRG Tank Leopard II, December 1974, p. 1.

⁵¹Over 5,500 have been produced and are in service in Germany and elsewhere, including Norway, Belgium, The Netherlands, Italy, Denmark and Australia. Canada was negotiating for their purchase; "Leopard a Hot Item: Will Ottawa Deal For It?" Toronto Globe and Mail, March 26, 1976.

⁵²Fred Schreier, "Leopard II--Main Battle Tank for the '80s," International Defense Review 7 (June 1974): 347. I received some indications from interviews with Congressional staff members familiar with the issue that the 120 mm gun was driven more by internal political needs in Germany than it was by military

requirements--the German Ministry of Defense (MOD) believed it necessary to make a major change in the tank in order to sell a new version to the Bundestag--the 120 mm gun, added to ostensibly meet an increasing Soviet threat, served this purpose. As will be developed, a similar logic may have driven the United States Army to adopt the 105 for its XM-1.

⁵³ John W. Finney, "Pentagon Asks West Germany to Enter Competition for Order for New Tanks," New York Times, January 17, 1975, p. 43.

⁵⁴ See Simon Winchester, "German Tank for U.S. Forces," Manchester Guardian, January 25, 1975 where he notes that the runoff was called for personally by Secretary of Defense Schlesinger. This became common knowledge as the competitive program progressed.

⁵⁵ The Army is extremely sensitive with respect to what they perceive, probably accurately, as an attempt to sell them down the river by using the tank as a tradeoff for the AWACS--the fact that the tank was at the top of a list of proposed AWACS offsets in a 1976 Rand study reinforced the Army's concern: Wolf, "Offsets for NATO Procurement of the Airborne Warning and Control System," p. 30.

⁵⁶ Memorandum of Understanding, XM-1/Leopard II, p. 1.

⁵⁷ The Germans, however, apparently agreed to this; see Senator Culver's remarks in U.S., Congress, Senate, Committee on Armed Services, Fiscal Year 1977 Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve and Civilian Personnel Strengths, Hearings before the Committee on Armed Services, United States Senate on S. 2965, 94th Cong., 2nd Sess., part 1, January 29, 1976, p. 489.

⁵⁸ Memorandum of Understanding, XM-1/Leopard II, p. 2.

⁵⁹ See, for example, Finney, "Pentagon Asks West Germans to Enter Competition," p. 43, where he implies that the United States and Germany both agreed to buy the winning tank.

⁶⁰ Thus making the deal appear to be one-sided in favor of Germany. U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Authorization for Appropriations for Fiscal Year 1977, Hearings on Military Posture and H.R. 11500

(H.R. 12438) before the Committee on Armed Services, House of Representatives, 94th Cong., 2nd Sess., part 1, February 1976, p. 966; Also part 2, February 19, 1976, p. 522.

⁶¹U.S., Department of Defense, News Conference by Secretary of the Army Martin R. Hoffmann, The Pentagon, Thursday, February 12, 1976; Transcript prepared by OASD/PA, p. 3.

⁶²"New U.S. MBT Candidates Said to Test Out in 'Dead Heat,'" Armed Forces Journal, International 113 (April 1976): 18.

⁶³As noted above, the different prioritization of criteria by the United States and Germany has had a major effect on the type of tank which emerges from the development process--modification after the fact to meet the other's criteria is, as the Germans found out, an expensive task and one which is unlikely to be successful. Finney, "Pentagon Asks," p. 43.

⁶⁴Finney, "Pentagon Asks," p. 43.

⁶⁵Ibid.

⁶⁶Recall the earlier GAO study he requested on the MBT-70.

⁶⁷"Eagleton Asks for Major Review of XM-1 Tank Program," Defense Space Business Daily, January 20, 1975.

⁶⁸Ibid.

⁶⁹Stratton was a clear exception. See F. Clifton Berry, Jr., "House Panel Slams XM-1 Delay," Armed Forces Journal, International 114 (October 1976): 34-35.

⁷⁰See testimony by Assistant Secretary of the Army for Research and Development, Norman R. Augustine, U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, Hearings on Military Posture and H.R. 3689 (H.R. 6674) before the Committee on Armed Services, House of Representatives, 94th Cong., 1st Sess., part 4, March 7, 1975, p. 4092.

⁷¹See Senator Culver's questioning Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 6, March 17, 1975, pp. 3177-3178, 3217.

⁷²Ibid., part 2, February 7, 1975, p. 406, for comments by Secretary of the Army Howard H. Callaway; part 2, February 7, 1975, pp. 413-414 for comments by the Army Chief of Staff General Weyand; and part 4, February 27, 1975, pp. 1835-1839 for comments by the Acting Army Deputy Chief of Staff for Research and Development, General Cooksey.

⁷³Ibid., part 4, February 27, 1975, p. 1836; General Weyand made a similar statement also in 1976.

⁷⁴Ibid. See General Cooksey's testimony for evidence of this.

⁷⁵See Ibid., part 6, March 17, 1975, pp. 3168 to 3233, especially pp. 3214-3215.

⁷⁶Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977 (Senate Report 94-146), May 19, 1975, p. 88.

⁷⁷The Army responded to the Senate Armed Services Committee: "The alternative program is not preferred by the Army; however, it would certainly not be expected to have a devastating effect on the XM-1 project assuming no complications arise in the international aspects of the program. The advantage it offers is one of increased evidence of United States emphasis on NATO standardization" quoted in U.S., Congress, Senate, Congressional Record, 94th Cong., 1st Sess., June 3, 1975, 121:S9420.

⁷⁸One of the reasons for Schlesinger's support may have been financial; the delay would have cost, the Army claimed, some \$159 million in increased development and production costs according to a letter from Secretary of Defense Schlesinger to the Honorable Melvin Price, Chairman of the Committee on Armed Services, House of Representatives, dated June 6, 1975 (copy of letter obtained by author from the Office of the Secretary of Defense, Public Affairs). DOD certainly was under significant pressure from contractors on this issue. The Army was, therefore, very confident that DOD would fight the Senate Armed Services Committee on this issue and put

strong pressure on DOD. See U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriations for Fiscal Year 1976, Hearings before a subcommittee of the Committee on Appropriations, United States Senate, on H.R. 9861, 94th Cong., 1st Sess., part 5, October 6, 1975, p. 1213 where Secretary Schlesinger reports a personal plea from Army Chief of Staff Weyand against delay of the contract award. Certainly the House Armed Services Committee was also receiving pressure from the contractors at this time.

⁷⁹The fight over this issue in Conference was quite lengthy and probably bitter from indications the following year, when Mr. Stratton noted that the Congress had clearly indicated its desire that the program go ahead on schedule. It probably would have been more bitter and possibly the outcome different had the Senate's strongest proponent of standardization, Senator Culver, been on the conference committee. Interviews with Congressional staff members indicate that Senator Culver was the most vocal supporter of standardization in Congress. He was not present during the 1976 conference and these sources indicated that this is why the standardization policy amendment discussed in Chapter IV was defeated in its original form that year and why the Army was successful in pursuing the early contract award for the XM-1. They noted that he was present at the conference the next year, although not as a member, but as an invited guest (to present an amendment); significantly, the standardization policy amendment did pass intact that year!

⁸⁰U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriation Bill, 1976, Report to accompany H.R. 9861 (House Report 94-517), 94th Cong., 1st Sess., September 25, 1975, pp. 275-276; The only qualification was that if the Leopard II was not available by September 30, 1976, the Army could proceed with the FSED contract; this reflected General Baer's pessimistic evaluation of the readiness of the Leopard II; See U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriations for 1976, Hearings before a subcommittee of the Committee on Appropriations, House of Representatives on H.R. 9861, 94th Cong., 1st Sess., part 9, May 13, 1975, p. 109. Ironically, at the same time as the House Appropriations Committee delayed the FSED contract and was, in effect, encouraging standardization, they strengthened the Buy American Act, a seemingly contradictory action; see the Report, pp. 355-356 and Chapter IX.

⁸¹ See the questioning of Senator Thurmond (R-SC) of Secretary of Defense Schlesinger in the Senate Appropriations Committee, Subcommittee on Department of Defense, Hearings on the Department of Defense Appropriations for Fiscal Year 1976, part 5, October 6, 1975, p. 1213.

⁸² U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriation Bill, 1976, Report to accompany H.R. 9861 (Senate Report 94-446), 94th Cong., 1st Sess., November 6, 1975, p. 250.

⁸³ See Ripley and Franklin, Congress; and Lawrence C. Dodd and Richard L. Schott, Congress and the Administrative State (New York: John Wiley and Sons, 1979), pp. 222-236.

⁸⁴ See the debate on the Committee report, U.S., Congress, House of Representatives, Congressional Record, 94th Cong., 1st Sess., September 30, 1975, 121:H9293-H9294, where the idea of saving money is stressed as the prime motivating force.

⁸⁵ See House Appropriations Committee, Hearings on the Department of Defense Appropriations for FY 1976, part 1, pp. 163, 336-338, part 4, pp. 624-626 and part 5, p. 463; The only sign of hostility was questioning concerning the choice of the 105 mm over the German 120 mm gun in part 9, pp. 108-117.

⁸⁶ U.S., Congress, House of Representatives, Committee of Conference, Department of Defense Appropriations, Fiscal Year 1976, Conference Report to accompany H.R. 9861 (House Report 94-710), 94th Cong., 1st Sess., December 10, 1975 as reprinted in Congressional Record, December 10, 1975, 121:H 12284.

⁸⁷ John W. Finney, "Bonn Charges Bias in Selection of Tank," New York Times, December 18, 1975, p. 2.

⁸⁸ Ibid.

⁸⁹ Ibid. The Germans had an immediate financial interest in the competition also; the cost of remodeling the Leopard II prototypes for the United States competition was in the area of \$25 million. See Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 5, March 5, 1976, p. 2802.

⁹⁰ See also John W. Finney, "U.S. Weighing Use of a German Tank," New York Times, February 13, 1976, p. 13.

⁹¹ Transcript of Hoffmann's new conference, New York Times, February 13, 1976, p. 3.

⁹² "Tank Contest Seen Decided in Advance: Germans Loser," Baltimore Evening Sun, March 15, 1976, p. 2. The Currie memorandum was part of an internal response to Eagleton's letter of December 1975. In fairness to the Department of Defense, the press apparently used his statement out of context, as other internal DOD documents indicate (Internal DOD Memorandum prepared by OSD/PA and OSD/DDR&E dated June 30, 1976; memorandum was a prepared response in anticipation of questions dealing with the "commitment" to purchase tanks). While Currie's memorandum did note the belief that the likelihood of the Leopard II proving superior to the XM-1 was low, it also noted that "DOD would recommend the Leopard II design if it proved clearly superior and of comparable cost," as the Internal DOD memorandum documents. Note however, the significant qualifications to Hoffmann's earlier commitment. In addition, even if DOD was quoted out of context, the damage was nevertheless still real; the Germans were mad.

⁹³ As the German Defense Ministry noted in disclaiming his statement as a "personal view;" See "XM-1, Leopard II Stakes Raised; AWACS Hostage," Armed Forces Journal, International 113 (April 1976): 14.

⁹⁴ Mr. Damm was appearing before the Senate Armed Services Committee as a European Parliamentarian; See Senate Armed Services Committee, Hearings on European Defense Cooperation, p. 19. Even though unofficial, the attitude certainly reflected German concern over United States sincerity with respect to the two-way street. Unfortunately for Mr. Damm the linkage he chose probably stiffened Army resistance on even more parochial lines as it made public the Air Force's vested interest in United States purchase of the Leopard II to enhance procurement by the Germans of the AWACS and thus reduce unit costs of that aircraft for the United States.

⁹⁵ See "NATO Tank Trap," New York Times, April 19, 1976, p. 26, for a discussion of the growing labor-industrial-service pressure on Congress.

⁹⁶And if it had a turbine engine--the target was both the Leopard II and the GM tank with a diesel engine. See "Army Buying Its New Tank: A \$4.5 Billion Decision," New York Times, July 18, 1976, p. E-3.

⁹⁷The qualification was floating around the Pentagon shortly after the commitment was made; See the Currie Memorandum discussed in footnote 91 above. The qualification had not been reported in the press however until now.

⁹⁸"New U.S. MBT Candidates Said to Test Out in 'Dead Heat,'" p. 18.

⁹⁹"New Tanks to Be Built in U.S. Even if Leopard II is Picked," Aerospace Daily, May 13, 1976, pp. 65-66.

¹⁰⁰Although even licensed production would mean some economic disadvantages relative to production of a United States-developed system, especially for the general contractor.

¹⁰¹As discussed in Chapter V; See also Morton H. Halperin, Bureaucratic Politics and Foreign Policy (Washington, D.C., The Brookings Institution: 1974), pp. 28-62.

¹⁰²See the Roland Case Study, Chapter VII.

¹⁰³House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 1, February 4, 1976, p. 966.

¹⁰⁴See Ibid., p. 1006 for comments by Dr. Hoffmann; See also House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 4, March 1, 1975, p. 4264 for comments by Mr. Augustine on the same subject the previous year; Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 6, March 17, 1975, p. 3214 for General Baer's testimony on the same topic; and House Appropriation Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1976, part 4, April 9, 1975, p. 625 for Dr. Currie's testimony in 1975.

¹⁰⁵House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 1, February 4, 1976, p. 1006.

¹⁰⁶House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 1, February 26, 1975, p. 582.

¹⁰⁷House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 1, February 4, 1976, p. 1007.

¹⁰⁸Memorandum of Understanding, XM-1/Leopard II; p. 1.

¹⁰⁹While this position served the Army well in the short term, it put them out on a limb in view of the changes Rumsfeld was to make to the Memorandum of Understanding in July of 1976. This also is a modification of Army testimony from the previous year in which General Baer was asked: "Are you evaluating it [Leopard II] as an entity rather than for its components?" His response was: "We are doing both. We are looking at it as an entity, but we are also looking at it for the possible common use of components between ourselves and the Germans." House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1976, part 9, p. 108.

¹¹⁰House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 2, February 19, 1976, p. 524.

¹¹¹*Ibid.*, pp. 525-526; See also Mr. Battista's comments in part 5, February 27, 1976, p. 1118. Battista is a senior staff member on the Committee.

¹¹²*Ibid.*, part 5, p. 994.

¹¹³Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 1, January 29, 1976, p. 467.

¹¹⁴*Ibid.*, part 1, pp. 488-489.

¹¹⁵Ibid., part 1, p. 576.

¹¹⁶Ibid., part 4, February 5, 1976, pp. 2403-2404.

¹¹⁷Ibid., part 5, pp. 2789, 2794-2796.

¹¹⁸U.S., Congress, General Accounting Office. Critical Considerations in the Acquisition of a New Main Battle Tank, Department of Defense, Report to the Congress by the Comptroller General of the United States, Report PSAD-76-113A, July 22, 1976; A classified version of the report was released on June 24, 1976.

¹¹⁹See "West German Tank Isn't Seen as Choice for the Pentagon," Wall Street Journal, June 30, 1976, p. 6; See also John W. Finney, "Army's Plans for New Tank Scored," New York Times, June 30, 1976, p. 8.

¹²⁰General Accounting Office, Critical Considerations, p. 1.

¹²¹Ibid., paraphrased summary of the GAO's main points, pp. 1-11.

¹²²Ibid., p. 48.

¹²³Ibid., p. 44.

¹²⁴Ibid., pp. 48-50. In one interesting exchange which occurred during the course of the study, the GAO suggested that DOD consider dropping the Leopard II as an alternative, given what they saw as lack of Army sincerity. The DOD response was indignant: "We consider the suggestion to drop the Leopard II to be unwarranted and counterproductive to our efforts toward standardization of future weapons in NATO." Letter from Malcolm Currie to the GAO, March 16, 1976, reprinted on page 55 of the GAO report.

¹²⁵Ibid., pp. 66-68 for reproduction of Aspin's letter to the GAO.

¹²⁶Ibid., p. 41.

¹²⁷Ibid., p. 48.

¹²⁸The Gun Memorandum of Understanding was signed in March of 1974; competition was to begin in January of 1975. See U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriations for 1977, Hearings before a sub-committee of the Committee on Appropriations, House of Representatives, on H.R. 14262, 94th Cong., 2nd Sess., part 2, February 17, 1976, p. 355; See also, "Tripartite Firing Trials," Armed Forces Journal, International 112 (March 1975): 14.

¹²⁹Benjamin F. Schemmer, "New U.S. Round Wins NATO Gun Bid," Armed Forces Journal, International 113 (October 1975): 8. The prediction of a United States "victory" was premature.

¹³⁰John W. Finney, "NATO Allies Divided Over Tank Gun," New York Times, April 18, 1976, p. 12.

¹³¹Benjamin F. Schemmer, "NATO's New MBT 'Gun' Will Be Three New Guns," Armed Forces Journal, International 113 (April 1976): 12. The Journal was forced to recant its earlier prediction of a United States victory. Apparently the objection to the depleted uranium round was from the British, according to General Cooksey in testimony before the Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 6, February 25, 1976, p. 3175.

¹³²See Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 7, March 13, 1975, p. 3895. See also House Appropriations Committee, Hearings on the Department of Defense Appropriations For Fiscal Year 1976, part 4, April 9, 1975, p. 626.

¹³³House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1976, part 9, p. 111.

¹³⁴Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 6, March 17, 1975, pp. 3181-3183.

¹³⁵John W. Finney, "NATO Allies Divided Over Tank Gun," New York Times, April 18, 1976, p. 12.

¹³⁶Schemmer, "NATO's New MBT 'Gun,'" p. 12.

¹³⁷ U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriations for Fiscal Year 1977, Hearings before a subcommittee of the Committee on Appropriations, United States Senate on H.R. 14262, 94th Cong., 2nd Sess., part 1, February 19, 1976, p. 1109.

¹³⁸ House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 5, February 27, 1976, p. 1034 and Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 6, February 25, 1976, p. 3149.

¹³⁹ See Schemmer, "NATO's New MBT 'Gun,'" p. 12 plus Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 6, February 25, 1976, p. 3250 and House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1977, part 2, February 17, 1976, p. 355.

¹⁴⁰ U.S., Department of Defense, Transcript of Secretary Hoffmann's press conference of February 12, 1976, Office of the Assistant Secretary of Defense for Public Affairs, February 12, 1970, pp. 3-4.

¹⁴¹ Ibid., p. 4.

¹⁴² See Hoffmann's testimony before the Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 2, February 3, 1976, p. 729.

¹⁴³ This meant only making sure that such a turret could later be retrofitted; it did not mean a dual-capable turret as will come up soon. See Ibid., part 4, February 5, 1976, p. 2525. In fairness to the Army, history has shown that most improvements in tank gun effectiveness have been through improvements in projectiles, rather than changes in the size of the gun; this is the route that the Army was attempting to pursue. Further, both sides can be criticized for playing politics with the gun; the Germans interpreted the competition to fit their political needs while the United States, after entering the competition, made its decision based on political considerations and locked herself out of certain options which should have been kept open.

¹⁴⁴ Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1977 (Senate Report 94-878), May 14, 1976, p. 20.

¹⁴⁵ Mr. Hyman Fine, former Senior Staff Member, Senate Armed Services Committee, interview in Washington, D.C., September 19, 1977.

¹⁴⁶ Quoted by John Finney, "Bonn Charges Bias in Selection of Tank," New York Times, December 18, 1975, p. 8.

¹⁴⁷ General Accounting Office, Critical Considerations, pp. 29-30.

¹⁴⁸ Ibid., p. 51.

¹⁴⁹ Occasionally I ran into innuendos that the concern of Representative Stratton in supporting the Army with respect to the 105 mm gun was due less to his long time relationship with tanks and the Army than that the Watervliet Arsenal, where the 105 gun is made, is located in his district. John F. Lally, counsel to Stratton's Investigation Subcommittee vehemently denied that this had any influence on Stratton's position. I tend to believe that it probably is a minor influence. Although Lally was unsure, the same arsenal would probably build the new gun and, if anything, the change-over would cause more money to flow into the district. Design of the gun ("Not-Invented-Here") is a less critical source of national and institutional pride than is design of a tank; in other words, we'll adopt someone else's gun (albeit reluctantly as the MAG-58 case shows), but not their whole tank. Based on an interview with Mr. Lally in Washington, D.C., September 27, 1977.

¹⁵⁰ But in major features, such as main gun, engine, etc., "The Tanks Don't Roll-Again," Army Magazine 26 (September 1976): 12.

¹⁵¹ Ibid.

¹⁵² John W. Finney, "U.S. Army Blocks German Tank Project," New York Times, July 15, 1976, p. 6.

¹⁵³ Arguing that it would violate their contracts with Chrysler and GM which were to run through August 1, 1976; Ibid.

¹⁵⁴"The Tanks Don't Roll," p. 12; Also, according to the Times article, GM and Chrysler representatives met in late June or early July with Clements to protest any arrangement that would require German-developed components to be included on their tanks. Apparently they saw this as a financial challenge in that these are the profit-making parts on a tank. "U.S. Army Blocks," p. 6.

¹⁵⁵"U.S., Bonn Urged to Use Common Tank," Baltimore Sun, July 3, 1976, p. 4; See also Aerospace Daily, July 7, 1976, p. 29.

¹⁵⁶Noting that it was unrealistic from the start to assume that the United States would adopt the German tank and emphasizing instead the need to develop common components. "Bonn Hopes for Standard Tank Fade," Baltimore Sun, July 8, 1976, p. 1.; Other articles in the German press reflected Leber's position; for example, see "German-U.S. Tanks Compared," Die Welt, July 15, 1976, p. 4.

¹⁵⁷David R. Francis, "West German Hopes Fade U.S. Will Buy Tanks," Christian Science Monitor, July 21, 1976, p. 9.

¹⁵⁸Although DOD denied the allegation by the New York Times that the Army had scuttled the agreement, the report is almost certainly true, especially in light of the failure to sign the agreement as planned in early July. DOD did note, however, that attempts to seek a common tank were still ongoing, indicating that they had not totally defaulted to the Army. See Norman Kempster, "Draw Likely in U.S., Bonn Tank Contest," Los Angeles Times, July 16, 1976, p. 4.

¹⁵⁹"Schmidt Talks About Tanks," New York Times, July 18, 1976, p. E-4.

¹⁶⁰"Draw Likely," p. 4.

¹⁶¹John W. Finney, "Army Postpones Tank Selection-Decision Will Allow Study of Components Common with West German Version," New York Times, July 22, 1976, p. D-11.

¹⁶²U.S., Department of Defense, "Extension of XM-1 Tank Validation Phase," News Release No. 330-76, Office of the Assistant Secretary of Defense for Public Affairs, July 22, 1976. For more

background on the decision see Finney, "Army Postpones," p. D-11 and Rowland Evans and Robert Novak, "Tank Trouble," Washington Post, August 6, 1976, p. 23. Evans and Novak also note that Rumsfeld, as a former United States Ambassador to NATO, had a strong commitment to military efficiency in NATO.

¹⁶³The West Germans had earlier criticized the Army position, insightfully and probably correctly noting that once a final design went into production, the Army would resist even stronger any changes due to the increased costs involved. See "Army Postpones," p. D-11.

¹⁶⁴Paraphrased from the transcript of Hoffmann's Press Conference, held at the Pentagon, Thursday, July 22, 1976; copy of transcript provided the press by OASD/PA, pp. 3-11. Reflecting some sense of humor in a very trying position, Hoffmann, asked a question on how he ever expected to do in three months what DOD had not been able to accomplish over several years, responded: "Hope springs eternal." (p. 3.).

¹⁶⁵U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., July 23, 1976, 122: S1231.

¹⁶⁶"Pentagon's Delay on Tanks Challenged by Congressmen," Baltimore Sun, July 27, 1976, p. 2; The article notes also the dichotomy between the House and Senate Armed Services Committees on support for standardization and the tank.

¹⁶⁷Currie's trip apparently laid the groundwork. On July 24, 1976 Army Undersecretary for Research and Development Norman Augustine and General Baer, the XM-1 Program Manager went to Bonn to negotiate details; Benjamin F. Schemmer, "XM-1: NATO Standardization Breakthrough or Rumsfeld's TFX," Armed Forces Journal, International 114 (September 1976): 26.

¹⁶⁸U.S., Department of Defense, "Addendum to Memorandum of Understanding on U.S./FRG Tank Development," News Release No. 349-76, Office of the Assistant Secretary of Defense for Public Affairs, August 4, 1976.

¹⁶⁹This second evaluation was to be a paper evaluation, not a physical comparison.

170 What DOD had in mind was United States adoption of the German 120 mm gun and German adoption of a United States-developed turbine engine (as Chrysler was building). Both were, however, contingent upon the need to "demonstrate" reliability upon further development.

171 U.S., Department of Defense, Transcript of News Conference by Secretary of the Army, Martin R. Hoffmann, Pentagon, Wednesday, August 4, 1976, Office of the Assistant Secretary of Defense for Public Affairs, August 4, 1976, pp. 1-2. A new agreement to test the British gun was signed by representatives of the United States and Britain on July 14, 1976. However, the Addendum to the Memorandum of Understanding with the Germans, as finally signed, called for a final decision on the 120 mm gun by January 15, 1977 (the original draft of June, which the Army killed, had set a March 15, 1977 deadline). However, there was no way the British gun could be tested and evaluated by January 15, 1977. Hence, in some senses, the British gun could be considered, de facto, to be out of the competition; this point was to cause problems later on. U.S., Congress, House of Representatives, Committee on Armed Services, Report of the XM-1 Tank Panel of the Committee on Armed Services, House of Representatives (HASC Report No. 94-67), 94th Cong., 2nd Sess., September 23, 1976, p. 7.

172 Hoffmann's Press Conference, August 4, 1976, p. 5 of transcript.

173 John W. Finney, "U.S. and Bonn Reach Tank Compromise," New York Times, August 5, 1976, p. 1.

174 U.S., Department of Defense, Addendum 1 to Memorandum of Understanding Between the United States of America, Represented by the United States Department of the Army and the Federal Republic of Germany, Represented by the Federal Ministry of Defense Concerning the Harmonization of the U.S. Tank XM-1 and the FRG Tank Leopard II, August 3, 1976, p. 4. The House Armed Services Committee was to make much of this; the Army had chosen a diesel engine in competition with a turbine, but now was being forced to go back to a turbine. The Senate Armed Services Committee, on the other hand, saw no major problems with the decision.

175 "Tank Squabble Spotlights Inept Ford Campaign," Muskegon Michigan Chronicle, August 16, 1976; the article charges that the ultimate cost of the delay would be up to \$1 billion and 2000 jobs in Michigan.

¹⁷⁶Schemmer, "XM-1: NATO Breakthrough or Rumsfeld's TFX," pp. 22, 26.

¹⁷⁷Ibid.

¹⁷⁸Letter from Deputy Secretary of Defense W. P. Clements to E. M. Estes, President, General Motors Corporation, dated September 1, 1976. Letter obtained by the author from the Office of the Assistant Secretary of Defense for Public Affairs.

¹⁷⁹Schemmer, "XM-1: NATO Breakthrough or Rumsfeld's TFX," p. 26.

¹⁸⁰Ibid., p. 22.

¹⁸¹Letter from the Secretary of Defense, Donald Rumsfeld, to the Honorable Melvin Price, dated September 22, 1976, reprinted in U.S., Congress, Senate, Committee on Government Operations, Major Systems Acquisition Reform, Hearings before the subcommittee on Federal Spending Practices, Efficiency, and Open Government of the Committee on Government Operations, United States Senate, 94th Cong., 2nd Sess., September 29, 1976, part 3, "Army XM-1 Tank Program," p. 25.

¹⁸²Evans and Novak, "Tank Trouble," p. 23; See also the following Hearings and Reports of the House and Senate dealing with the tank delay: House Armed Services Committee, Hearings on Delays in the XM-1 Program; House Armed Services Committee, Report of the XM-1 Tank Panel of the Committee on Armed Services (HASC No. 94-67); U.S., Congress, House of Representatives, Committee on Armed Services, Full Committee Consideration of H.R. 13549 and H.R. 3954 and Summary of Findings and Recommendations of the XM-1 Tank Panel, Report of Committee on Armed Services, House of Representatives (House No. 94-70), 94th Cong., 2nd Sess., September 23 and 28, 1976; and U.S., Congress, Senate, Committee on Armed Services, U.S. Army XM-1 Tank Program, Hearings before the Committee on Armed Services, United States Senate, 94th Cong., 2nd Sess., August-September 1976.

¹⁸³"Secretary of the Army Opposed Tank Plan," New York Times, Aug. at 11, 1976, p. 30.

¹⁸⁴ This is highly unlikely. As Stratton obviously was aware, State was concerned with the AWACS linkage and did not want to sour that deal by being too obstinate on the Leopard II/XM-1; See "Hoffmann Defends Delay in Tank Program to Seek Commonality," Aerospace Daily, August 11, 1976.

¹⁸⁵ Ibid.; Also, see the Addendum, p. 8.

¹⁸⁶ "XM-1 Tank Seen More than Match for Soviet Counterpart," Aerospace Daily, September 10, 1976, p. 43.

¹⁸⁷ "General Says Army was Overruled by Rumsfeld on Two-Nation Tank," New York Times, September 21, 1976, p. 5; House Armed Services Committee, Hearing on Delays in the XM-1 Program, p. 403.

¹⁸⁸ "Drawbacks of Tank Standardization Effort Cited," Aerospace Daily, September 21, 1976, p. 95.

¹⁸⁹ U.S., Department of Defense, "Statement by Secretary of Defense Rumsfeld at Pentagon News Briefing," News Release No. 455-76, Office of the Assistant Secretary of Defense for Public Affairs, September 27, 1976.

¹⁹⁰ These would have been the figures used by the Army to defeat rumored attempts earlier to reach agreement on seeking common parts.

¹⁹¹ House Armed Services Committee, Hearings on Delays in the XM-1 Program, pp. 385-411 for General Kerwin's testimony, especially pp. 397, 405-406, 408-409; See also, "Drawbacks," Aerospace Daily, p. 95.

¹⁹² 97% of NATO tanks would be standard by 1997 if all went with the 105; they did not, however, try to determine how many would be standard if all went with the 120! The depleted-uranium round was discussed as increasing the armor penetration of the 105. See House Armed Services Committee, Report of the XM-1 Tank Panel, pp. 6-9.

¹⁹³ Ibid., p. 6.

¹⁹⁴ Ibid., p. 17.

¹⁹⁵ Ibid., pp. 17-18.

¹⁹⁶ Ibid., p. 17.

¹⁹⁷ U.S., Congress, House of Representatives, Committee of Conference, Department of Defense Appropriations, 1977 Conference Report to accompany H.R. 14262 (House Report 94-1475), 94th Cong., 2nd Sess., September 3, 1976, pp. 31-32.

¹⁹⁸ John W. Finney, "West German Tank Here for Tests," New York Times, September 10, 1976, p. D-1.

¹⁹⁹ Senate Government Operations Committee, Hearings on Major Systems Acquisition Reform, p. 23.

²⁰⁰ Ibid., p. 17.

²⁰¹ Ibid., p. 16; Of course, Weicker is from Connecticut, where the turbine engine was to be built.

²⁰² U.S., Department of Defense, "Secretary of the Army Announces Chrysler Selection for Development of XM-1 Tank," News Release No. 535-76, Office of the Assistant Secretary of Defense for Public Affairs, November 12, 1976.

²⁰³ There was a very heavy and close monitoring of the Army by the highest levels of DOD; the Army really had no choice but to go with the turbine.

²⁰⁴ U.S., Department of Defense, Transcript of News Conference by Secretary of the Army, Martin R. Hoffmann, Pentagon, Friday, November 12, 1976, Office of the Assistant Secretary of Defense for Public Affairs, November 12, 1976, pp. 4-5.

²⁰⁵ Which GM lacked and had to make up for, being forced to redesign its hull to accept a turbine: "Chrysler Wins Job to Develop New Army Tank," Wall Street Journal, November 15, 1976, p. 3.

²⁰⁶ Benjamin F. Schemmer, "XM-1 Cost Proposals Changed by Wide Margins," Armed Forces Journal, International 114 (January 1977): 20.

207 Ibid.

208 The Army was obviously embarrassed by these figures also and sought to keep them hidden until pressed by Armed Forces Journal for their release. In fact, until the Journal obtained them through Freedom of Information inquiries, the figures had not even been released to Congress; Ibid.

209 "Army to Increase Testing for Tank; Cost to Rise 15%," Detroit News, April 14, 1977, p. 17D.

210 Press Conference of Secretary Hoffmann, November 12, 1976, p. 3.

211 Ibid., pp. 10-11.

212 Which we had agreed to test in a July, 1976 agreement with the British.

213 "Gun Battle for the New Tank," Economist, November 20, 1976, p. 59; See also, "Race Not Always to the Swiftest," Economist, December 25, 1976, p. 31.

214 Dana Adams Schmidt, "Senators Urge NATO Upgrading," Christian Science Monitor, November 19, 1976, p. 12.

215 General Baer, in testimony before the House Armed Services Committee stated that he felt that this decision pretty much excluded the British gun from the competition; House Armed Services Committee, Hearings on Delays in the XM-1 Program, p. 140.

216 Ibid., pp. 148-149; for General Baer's testimony on the cost of the delay and of the dual turret. See John W. Finney, "NATO Allies Divide Over Tank Gun," New York Times, April 18, 1976, p. 12 for reports on previous testimony; See the Transcript of Secretary Hoffmann's Press Conference, November 12, 1976, pp. 7-8 for General Baer's defense of the turret.

217 Transcript of Secretary Hoffmann's Press Conference, November 12, 1976, p. 4.

218 Ibid.

219 Paraphrased from Edwin G. Pipp, "U.S. Army 'Wastes' \$2.9 Million to Test West German Tank," Detroit News, November 28, 1976, p. 3. and George C. Wilson, "Chrysler to Build Army Tank," Washington Post, November 13, 1976, p. 2.

220 The House Armed Services Committee was able to claim that such a move was only proper in light of the Memorandum of Understanding with Britain; any other action, they argued, would have been illegal. See U.S., Congress, House of Representatives, Committee on Armed Services, Report of the Oversight Hearings on the Status of the Army XM-1 Tank Program before the Investigations Subcommittee of the Committee on Armed Services, House of Representatives (HASC No. 95-35), 95th Cong., 1st Sess., October 18, 1977, pp. 6-7.

221 "Keep Politics Out of XM-1 Gun Decision, House Subcommittee Warns," DMS, Intelligence, November 17, 1977.

222 U.S., Department of Defense, Memorandum for Correspondents, Office of the Assistant Secretary of Defense for Public Affairs, January 12, 1977.

223 See "Army Delays Choice of Gun for Main Tank Until at Least December 30," Wall Street Journal, January 13, 1977, p. 9, and "Hoffmann Asks Tank Gun Delay," Baltimore Sun, January 11, 1977, p. 2.

224 U.S., Department of Defense, Memorandum for Correspondents, Office of the Assistant Secretary of Defense for Public Affairs, January 18, 1977.

225 U.S., Congress, General Accounting Office, Department of Defense Consideration of West Germany's Leopard as the Army's New Main Battle Tank, Report to the Congress by the Comptroller General of the United States, Report PSAD-78-1, November 28, 1977, p. 11.

226 Ibid., pp. ii and 2.

227 U.S., Department of Defense, Department of the Army, "Summary Briefing of Technical Evaluation: XM-1 and Leopard II (AV) Tanks," unpublished briefing charts, February 28, 1977.

228 Ibid.

229 F. Clifton Berry, Jr., "Were U.S./German Tank Tests Invalid?" Armed Forces Journal, International 114 (May 1977): 13.

230 "XM-1, Leopard II Debate Waxing Hot Over 'How Good is Good,'" Army Magazine 27 (May 1977): 10.

231 General Accounting Office, Department of Defense Consideration, pp. ii-iii, 8.

232 Ibid., p. 9. The GAO considered AMSAA to be as independent of a group as is possible within the Army and indicated confidence in their conclusions (p. ii).

233 See remarks by Manfred Woerner, Chairman of the Bundestag in George C. Wilson, "West German Officials Protest Status of Its 'Leopard' Tanks," Washington Post, March 16, 1977, p. A-4; See also, "It's Time to Knock Heads," Los Angeles Times, March 17, 1977, where Army obstruction with the gun standardization agreement is noted; the Army had been successful in assuring that 105s would be mounted on the new XM-1s through at least 1985. By then, over one-third of the XM-1s would have 105s; See also Charles W. Dorddry, "Bonn Seeks to Save U.S. Tank Deal," Baltimore Sun, March 16, 1977, p. 2.

234 Anthony Murray, "German Defense Officials Linking U.S. Radar Use in NATO to Tank Accord," Baltimore Sun, March 12, 1977, p. 2.

235 Wilson, "West German Officials," p. A-4.

236 Ibid.

237 U.S., Department of Defense, unpublished memorandum prepared for the Secretary of Defense by the Assistant Secretary of Defense for Public Affairs and the Deputy Director for Defense Research and Engineering, dated March 21, 1977. While the German tank was clearly beyond the maximum limits in one area, that of width (144 inches), Armed Forces Journal, International could find no one in the Army who knew what the rationale for 144 inches was. After some detailed research, they discovered that it was a totally

arbitrary width. F. Clifton Berry, Jr., "Solving the 144-in Mystery," Armed Forces Journal, International 114 (June 1977): 18, 20.

²³⁸ See Dana Adams Schmidt, "German Builders Propose U.S. Buy Their Tanks," Christian Science Monitor, March 1, 1977, p. 11 and Takashi Oka, "Whose Standard Weapons for NATO?" Christian Science Monitor, March 16, 1977, p. 1. DGA International reportedly made Stratton angry with their lobbying; it was OK for United States companies to lobby Congress, but not for a United States company representing a foreign manufacturer to lobby.

²³⁹ U.S., Department of Defense, Joint Agreement, signed by the United States and German Army Deputy Chiefs of Staff for Research and Development on May 19, 1977.

²⁴⁰ But only if Germany adopted it, which Germany clearly was not going to do.

²⁴¹ U.S., Congress, House of Representatives, Committee on Armed Services, Authorizing Appropriations, Fiscal Year 1978, for Military Procurement, Research and Development, and Civil Defense; and Prescribing Strengths for Active Duty and Reserve Military Components and Civilian Personnel of the Defense Establishment, and Military Training Student Loads; and for Other Purposes, Report to accompany H.R. 5970 (House Report 95-194), 95th Cong., 1st Sess., April 7, 1977, pp. 77-78, and U.S., Congress, House of Representatives, Committee of Conference, Department of Defense Appropriation Authorization Act, 1978, Conference Report to accompany H.R. 5970 (House Report 95-446), 95th Cong., 1st Sess., June 20, 1977, pp. 38-39.

²⁴² The subcommittee, however, admitted that the agreement was only tacit; they recognized that the two were never explicitly linked. The issue is really also symbolic; since the gun would be built in the United States, few jobs would be lost and German industry would benefit only through licensing fees. The AWACS, on the other hand, represented a real cash flow to the United States, although it would be offset to a degree by some joint production; i.e., European firms would get contracts for subcomponents of the AWACS. See House Armed Services Committee, Report on Oversight Hearings on the Status of the XM-1 Tank, pp. 10-13.

243 Really DOD, since the decision on the joint turbine was a DOD decision which the Army was forced to go along with. Stratton realized this; he was probably, however, irritated at his sources in the Army who did not bring this out during the hearings when they knew, as he later discovered, that the testing was ongoing. I suspect they would have opened up had he pressed the right questions as clearly happened on a number of other issues. Army witnesses were clearly in a difficult position during the hearings in late 1976 and probably really weren't sure who, if anyone, was on their side.

244 House Armed Services Committee, Report on the Oversight Hearings on the Status of the XM-1 Tank, pp. 12-13. See also, "House Group Fears Rift Over NATO Tank," New York Times, October 21, 1977, p. 7.

245 Bernard Weinraub, "A West German Gun is Selected by Army for New Battle Tank," New York Times, February 1, 1978, p. 1.

246 "Give it a German Gun," Economist, December 17, 1977, p. 15 and "Germany Wins a Battle," Economist, January 28, 1978, p. 52.

247 Weinraub, "A West German Gun," p. 1. This plus the \$3000 cost of the dual turret. See testimony of the Deputy Secretary of Defense, Clements, before the Senate Government Operations Committee, Major Systems Acquisition Reform, p. 20.

248 Charles W. Coddry, "Army, in Historic Shift, Says German Gun Will Go on 'Several Thousand' XM-1 Tanks," Baltimore Sun, February 1, 1978, p. 1.

249 Ibid.; This is somewhat hard to accept given Kerwin's earlier testimony.

250 "U.S. Army Said to Select German Gun for New Tank," Baltimore Sun, January 20, 1978, p. 4.

251 Ibid.

252 Including Haig; See U.S., Congress, House of Representatives, Committee on Armed Services, Full Committee Consideration of H.R. 9486 and Reprogramming Request No. FY 78-14 P/A, Committee on Armed Services, House of Representatives, 95th Cong., 2nd Sess., May 23, 1978, p. 16.

253 George E. Wilson, "Panel Spikes Funds for German Tank Gun," Washington Post, May 2, 1978, p. 6.

254 Language noting that the decision was based "primarily on political considerations" was deleted by the full committee over Stratton's protests. See "German Tank Gun Criticized in House," Washington Post, May 17, 1978, p. 3.

255 "Army to Go Ahead in Gun Deal," Pittsburgh Press, July 24, 1978, p. 7.

256 House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1979, part 3/1, February 15, 1978, p. 31.

257 U.S., Congress, Senate, Committee on Armed Services, Authorizing Appropriations for Fiscal Year 1979 for Military Procurement, Research and Development, Active Duty, Selected Reserve, and Civilian Personnel Strengths, Civil Defense, and for Other Purposes, Report to accompany S. 2571 (Senate Report 95-826), 95th Cong., 2nd Sess., May 15, 1978, p. 64.

258 U.S., Congress, House of Representatives, Committee of Conference, Department of Defense Appropriation Authorization Act, 1979, Conference Report to accompany H.R. 10929 (House Report 95-1402), 95th Cong., 2nd Sess., July 31, 1978, p. 31.

259 U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriations Bill, 1979, Report of the Committee on Appropriations to accompany H.R. 13635 (House Report 95-1398), 95th Cong., 2nd Sess., July 27, 1978, p. 327.

260 U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriation Bill, 1979, Report to accompany H.R. 13635 (Senate Report 95-1264), 95th Cong., 2nd Sess., October 2, 1978, p. 8.

261 U.S., Congress, House of Representatives, Committee of Conference, Defense Appropriation, Fiscal Year 1979, Conference Report to accompany H.R. 13635 (House Report 95-1764), 95th Cong., 2nd Sess., October 11, 1978, p. 31.

262 House Armed Services Committee, Full Committee Consideration of H.R. 9486 and Reprogramming Request No. FY 78-14 P/A, p. 14

263 Ibid.

264 Ibid., pp. 15-16.

265 Ibid., p. 17; the eight points as transmitted in a letter from the Chairman of the House Armed Services Committee, Mr. Price, to Secretary of Defense Brown, dated May 26, 1978 are reprinted in U.S., Congress, House of Representatives, Committee on Armed Services, Army Reprogramming Request No. 78-14 P/A, FRG Smoothbore 120 mm Gun and XM-1 Tank, Hearings before the Investigations Subcommittee of the Committee of Armed Services, House of Representatives, 95th Cong., 2nd Sess., April-May 1978, pp. 146-147.

266 See U.S., Congress, House of Representatives, Committee on Appropriations, Army Reprogramming No. FY 78-14 P/A, Hearings before a subcommittee of the Committee on Appropriations, House of Representatives, 95th Cong., 2nd Sess., June 27, 1978; See also House Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (House Report 95-1398), July 27, 1978, p. 327.

267 See U.S., Congress, House of Representatives, Committee on Appropriations, Tank Gun Development Program, Army Reprogramming 78-14 P/A, Hearings before a subcommittee of the Committee on Appropriations, House of Representatives, 95th Cong., 2nd Sess., September 19, 1978.

268 "Better Reasons Behind Army's 120 mm XM-1 Gun Choice Than Made Public?" Armed Forces Journal, International 116 (March 1978): 14.

269 "FRG AWACS Buy Tied to U.S. 120 mm Gun Deal," Armed Forces Journal, International 116 (January 1979): 15.

270 "Bonn Warns U.S. on Purchases of NATO Arms," Baltimore Sun, September 6, 1979, p. 6.

271 "FRG AWACS Buy," p. 15.

²⁷²U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Authorization for Appropriations for Appropriations for Fiscal Year 1980, Hearings on Military Posture and H.R. 1872 (H.R. 4040) before the Committee on Armed Services, House of Representatives, 96th Cong., 1st Sess., part 3/2, March 27, 1979, pp. 2231-2240.

²⁷³U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Authorization Act, Fiscal Year 1980, Report to accompany H.R. 4040 (House Report 96-166), 96th Cong., 1st Sess., May 15, 1979, p. 101.

²⁷⁴U.S., Congress, Senate, Committee on Armed Services, Authorizing Appropriations for Fiscal Year 1980 for Military Procurement, Research and Development, Active Duty, Selected Reserve, and Civilian Personnel Strengths, Civil Defense, and for Other Purposes, Report to accompany S. 428 (Senate Report 96-197), May 31, 1979, p. 84.

²⁷⁵U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Authorization Act, 1981, Report to accompany H.R. 6974 (House Report 96-916), 96th Cong., 2nd Sess., April 30, 1980, pp. 105-106.

²⁷⁶U.S., Congress, Senate, Committee of Conference, Department of Defense Authorization Act, 1981, Conference Report to accompany H.R. 6974 (House Report 96-395), 96th Cong., 2nd Sess., August 13, 1980, p. 71.

²⁷⁷*Ibid.*, p. 72.

²⁷⁸*Ibid.*, p. 6.

²⁷⁹U.S., Department of Defense, News Conference, Secretary of Defense Harold Brown at NATO Headquarters, Brussels, Belgium, May 19, 1978; text distributed by Secretary of the Air Force, Office of Information.

²⁸⁰"The Two-Way Street and NATO Standardization--A Clarification of the U.S. Position," International Defense Review 11 (February 1978): 35; The General Accounting Office reports that the 120 mm gun conversions are to begin in August of 1984. I have found no evidence to suggest that the Army will be anywhere near

ready to begin conversion by that date. See U.S., Congress, General Accounting Office, XM-1 Tank's Reliability is Still Uncertain, Report to the Congress by the Comptroller General of the United States, Report PSAD-80-20, January 29, 1980, p. 1.

281 Mr. Edward R. Jayne, Deputy Director of the Office of Management and Budget for National Security and International Affairs, interview at the United States Air Force Academy, October 1, 1979.

282 See U.S., Congress, House, Congressional Record, 95th Cong., 1st Sess., April 22, 1977, 123:H3456 for floor action to add the amendment. Language quoted is from Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1978 (House Report 95-446), June 20, 1977, p. 39.

283 Note that Michigan would have produced the diesel; Senator Bartlett (R-OK) also supported the provision.

284 U.S., Congress, Senate, Congressional Record, 95th Cong., 1st Sess., May 17, 1977, 123:S7702.

285 Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1978 (House Report 95-446), June 20, 1977, p. 39.

286 U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriation Bill, 1978, Report to accompany H.R. 7933 (House Report 95-451), 95th Cong., 1st Sess., June 21, 1977, pp. 284-285; Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (Senate Report 95-1264), October 2, 1978, p. 33.

287 House Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (House Report 95-1398), July 27, 1978, pp. 253, 324-325; Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (Senate Report 95-1264), October 2, 1978, pp. 119, 33.

288 U.S., Congress, Senate, Committee on Armed Services, Department of Defense Authorization for Appropriations for Fiscal Year 1979, Hearings before the Committee on Armed Services, United States Senate on S. 2571, 95th Cong., 2nd Sess., part 10, April 7, 1978, pp. 6917-7001 and U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriations

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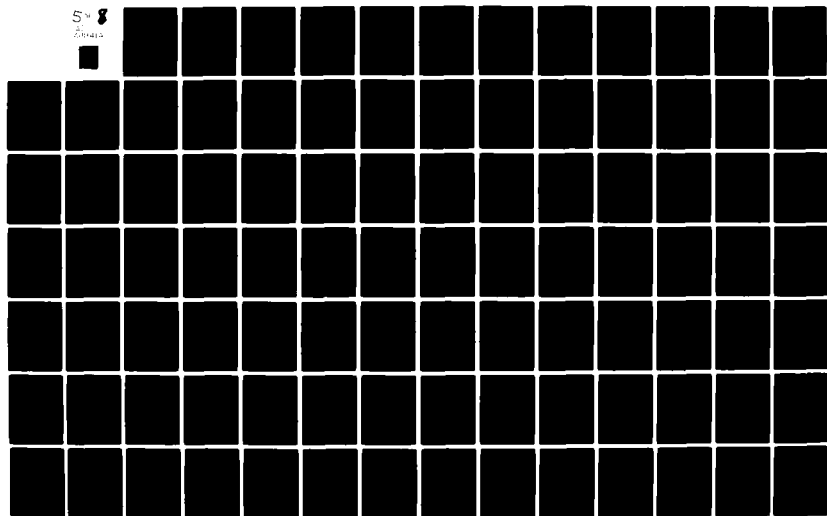
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289 U.S., Congress, General Accounting Office, Letter Report from the Director, General Accounting Office to Secretary of Defense Harold Brown, Letter B-163058, PSAD-79-67, April 16, 1979, pp. 1-2; See also, R. L. Janish, "Seven of Eleven XM-1 Pilot Vehicles Downed by Engine Failure," Armed Forces Journal, International 116 (October 1978): 12; R. L. Janish, "XM-1 Engine Problems Drop 50% Since Modifications," Armed Forces Journal, International 116 (December 1978): 16; "XM-1 Engine Failed on Average of Once Every 338 Miles in Tests," Armed Forces Journal, International 116 (May 1979): 16; Benjamin F. Schemmer, "Army's Turbine-Powered XM-1 Tank Fares Better in Latest Tests," Armed Forces Journal, International 117 (September 1979): 13; and "Army's XM-1 May be 3 1/2 to 7 1/2 Tons Overweight," Armed Forces Journal, International 117 (December 1979): 14.

290 Richard Halloran, "Pentagon Approves Main Battle Tank," New York Times, January 21, 1980, p. 11.

291 House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1980 (House Report 96-166), May 15, 1979, p. 61; Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1980 (Senate Report 96-197), pp. 63-64; U.S., Congress, House of Representatives, Committee of Conference, Department of Defense Authorization Act, Fiscal Year 1980, Conference Report to accompany S. 428 (House Report 96-546), 96th Cong., 1st Sess., October 23, 1979, pp. 30-36; House Appropriation Committee, Report on the Department of Defense Appropriations for Fiscal Year 1980 (House Report 96-450), 96th Cong., 1st Sess., September 20, 1979, pp. 288, 298-299; U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriation Bill, 1980, Report to accompany H.R. 5359 (Senate Report 96-393), 96th Cong., 1st Sess., November 1, 1979, p. 29; and U.S., Congress, House of Representatives, Committee of Conference, Providing Appropriations for the Department of Defense for the Fiscal Year Ending September 30, 1980, Conference Report to accompany H.R. 5359 (House Report 96-696), 96th Cong., 1st Sess., December 11, 1979, p. 33.

292 General Accounting Office, XM-1 Tank's Reliability, pp. 111, 20.

293 Ibid.

294 Richard Halloran, "Army's New Main Battle Tank Christened Amid a Debate," New York Times, February 29, 1980, p. 12.

295 House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1981 (House Report 96-916), April 30, 1980, p. 108.

296 Phil Patton, "Battle Over the New U.S. Tank," New York Times Magazine, June 1, 1980, p. 26+.

297 See Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 6, April 4, 1979, p. 3279 for testimony from Dr. Perry that even at that time he felt that German adoption of the turbine was unlikely; and U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Authorization for Appropriations for Fiscal Year 1981, Hearings on Military Posture and H.R. 6495 (House Report 6974) before the Committee on Armed Services, House of Representatives, 96th Cong., 2nd Sess., part 4/1, February 26, 1980, pp. 934-940 where the German decision is discussed further.

298 "Last Tank for Europe," Economist, September 15, 1973, pp. 53-54.

299 The magnitude of such a program is staggering. The F-16 "arms deal of the century" is priced at some \$2 billion; by contrast, a tank effort such as mentioned would approach \$10 billion or higher figuring approximately \$1 million per tank with a least 10,000 tanks initially planned by the three.

300 See Takashi Oka, "Who Will Get to Build NATO's New Tank Fleet," Christian Science Monitor, June 18, 1975, p. 30; Anthony Murray, "New Tank for Allies is Debated," Baltimore Sun, October 11, 1975, p. 2; and Murray Seeger, "Single Combat Tank for NATO Allies Under Study," Los Angeles Times, October 12, 1975, p. 17.

301 See "Controversy Over Future Battle Tank Armament—The German Standpoint," International Defense Review 10 (February 1977): 23.

302 R. H. Greenfield, "London and Bonn Cancel Tank Project," Sunday Telegraph (London), March 27, 1977.

303 Ibid.

304 William Mathewson, "Selection of Future NATO Tank Will Give Clue to Success of Alliance's Standardization Plan," Wall Street Journal, January 27, 1976, p. 38.

305 David R. Francis, "West German Hopes Fade that U.S. Will Buy Tanks," Christian Science Monitor, July 21, 1976, p. 9.

306 See "The Coming Tank Battle," Economist, January 17, 1976, pp. 15-16; and Nicholas Wade, "NATO Loses in Battle of Its Own Tanks," Washington Star, July 16, 1978, p. F-1.

307 See "The Tank Dilemma," Wall Street Journal, August 12, 1976, p. 10.

308 John W. Finney, "Army Buying Its New Tank: A \$4.5 Billion Decision," New York Times, July 18, 1976, p. E-3.

309 Clarence A. Robinson, Jr., "Hurdles Confront Standardization," Aviation Week and Space Technology 104 (June 21, 1976): 16.

310 John W. Finney, "Rift With Germans Over Tank Widening," New York Times, March 8, 1977, p. 7.

311 I.E., in the broader context of NATO, how it interfaced with other tank armies and how it contributed to broader NATO-Warsaw Pact concerns. See the report by Senators Nunn and Culver of their investigative trip to Europe in 1976: Senate Armed Services Committee, Report of Senator Sam Nunn and Senator Dewey F. Bartlett, NATO and the New Soviet Threat. Stratton, on the other hand, was more concerned with the tank as a unique weapon system; that is, is it the best and does it work. He was less concerned with the role it was to play.

312 Three Secretaries served during the XM-1 development process: Schlesinger, Rumsfeld and now Brown. See Finney, "Rift," New York Times, March 8, 1977, p. 7.

313 See "Don't Let Weapons Come Between Us," Economist, July 31, 1976, p. 43.

CHAPTER VII

ROLAND AIR DEFENSE MISSILE

Introduction

The Roland Short-Range Air Defense (SHORAD) Missile, a French-German system being produced in the United States is often hailed as a success story by proponents of standardization. It shows, they claim, that the United States is willing to procure European systems, that such systems can be purchased by and produced successfully in the United States, and that, since the Roland was so successful, more licensed-production agreements involving European developed systems will be likely.

In fact, the Roland is not the success story proponents claim. the entire history of the system has been one of controversy, ranging from tremendous cost overruns to accusations that American industry and military interests have sought to sabotage the system by over-Americanization, resulting in a hardening of opposition to further projects of this type in many quarters. In summary, the many problems faced by the Roland have provided ammunition to opponents of further purchases of European equipment which may very well preclude future programs like the Roland.

Overview

Army short-range air-defense has long been hampered by lack of an all-weather capability. The Chaparral, a daylight/fair-weather system was first deployed in 1969 as a companion to the Vulcan anti-aircraft gun. In the early 1970s the Army conducted a series of studies on the need for a missile system capable of operating under all weather conditions. In 1973, the Army approved the requirement for an all-weather short-range air defense SHORAD system to defend critical corps and rear areas. In July of 1974 with Department of Defense approval (April 1974), the Army solicited requests for proposals and received, in September 1974, four proposals. Three of the four were for foreign systems; the fourth was for an all-weather version of the Chaparral (submitted by Philco-Ford, now Ford Aerospace and Communications Corporation). The three foreign candidates were the French Crotale (submitted by Rockwell International), the British Rapier (submitted by United Aircraft) and the German/French Roland II (submitted by Hughes Aircraft). In January of 1975, the Roland was selected by the Army.¹

Case History

The Army first tried to initiate engineering development of an all-weather SHORAD system in 1973 but was refused authority by the Senate Armed Services Committee² because no requirement had been ratified by the Army. In fact, testimony brought out that one Army

study concluded that a requirement did not, in fact, exist.³ An attempt by Dr. Currie, then Director of Defense Research and Engineering, to reclaim the Senate's 1973 decision further alienated the Committee; he apparently attempted to justify the program at that time as a reaffirmation of our willingness to demonstrate interdependence of research and development with the NATO countries. The committee resisted (and was put off by) that argument. Apparently the only possible candidates at that time were the three foreign systems which eventually would become actual competitors. No United States all-weather system was far enough advanced to be a serious candidate at that time.⁴

The Senate Armed Services Committee also expressed irritation at the pressure they perceived DOD (DDR&E) as putting on the Army:

The Director of Defense Research and Engineering has been exerting pressure on the Army to buy one of the foreign developed missile systems to demonstrate cooperation with our NATO allies in research and development, and to show that the United States is willing to use a foreign developed weapon system.⁵

It is ironic that the Senate Armed Services Committee, which later would strongly support the procurement of a foreign system, was the first to question whether undue political pressure was being exerted on the Army. This was a role the House Armed Services Committee would take up later.

While DOD apparently was on the standardization bandwagon already, the Army was not. The Army did, however (at the Army Staff level), want a new all-weather SHORAD system. Thus, the DOD

and Army came back in 1974 with a new request. Having rejected the earlier study which negated the requirement and having completed new studies which confirmed that a requirement existed (all of which led to some cynical questions by the Senate Armed Services Committee),⁶ the Army had now received DOD approval for its requirement as noted above. By early 1974, however, the three foreign candidate systems were still the only ones identified as possible competitors. Questioning at this point in both House and Senate Armed Services Committees was aimed at ensuring that other systems, especially United States, would be included in the competition.

In testimony before the House Armed Services Committee in 1974, Mr. Norman R. Augustine, Assistant Secretary of the Army for Research and Development, assured the committee that all systems, domestic and foreign, would be considered as equals, but did suggest that certain cost advantages would ensue with purchase of a foreign system.⁷ Mr. Augustine also expressed what was to be misplaced optimism in the ability to transfer a foreign data package:

Just translating the data package to English in our units is estimated to cost about \$2 million. It is not a major undertaking. The problem of manufacturing that equipment in this country is something that has been done of course in the commercial market before. I would say it is a kind of thing there will be a lot of little problems but I would be surprised if there are any program-stoppers at all.⁸

He further stepped out on a limb in predicting great cost and time savings:

If we were to select a foreign system my guess is we will save probably two to three years in time. The estimate has been made that we might save as much as \$300 million, which of course we can divert to other areas and develop other systems here in the United States with that saving.⁹

In the Senate, Senator Strom Thurmond (R-SC) referred back to the 1973 hearings and questioned whether Roland was designed by the DOD to be a test case to show greater United States interest in cooperation with NATO:

Dr. Currie, your statement on pages 4-16 and 4-17 says that one of three foreign developed short-range SAM missiles will be started into the development and procurement process this year. Last year this committee rejected the Army's request for funds on this project because the Army had not found any requirement for an all-weather comparable missile in this size class, that is, on the foreign missiles I am speaking of. Also, last year you wrote the committee stating in part that a foreign missile would be brought to show interdependency in R&D with our NATO allies. [sic]

My question today is whether the request for development and procurement of a foreign system is based on this policy matter, that is, is it your intention to buy one of the three foreign candidates in order to demonstrate cooperation in R&D with our allies?

Dr. Currie. My answer to that is definitely no. The demonstration of cooperation with our allies will be an important side product and consequence of this procurement but the procurement is based on two factors.

One is that the Army has a stated (deleted) requirement (deleted) for an inexpensive low altitude all-weather system that can be proliferated. That requirement should be based on mature technology.

It so happens that all three of the foreign systems that you referred to have a state of maturity that is in a class above anything available in this country. I would stress that if one of these is selected, it will be procured in this country from a United States license.

So, Senator Thurmond, I think that it would be wrong for us to initiate a large development and procurement just to demonstrate that we are good people. But notwithstanding that this will be an important consequence of the program.¹⁰

Although the attitude to this point in both Houses had been

one of wariness toward foreign systems, the attitude in the Senate Armed Services Committee was beginning to change. In late 1973, Mr. Hyman Fine, a staffer on the research and development subcommittee of the Senate Armed Services Committee traveled to Europe with the support of the Subcommittee Chairman, Senator Thomas McIntyre (D-NH) to explore the possibilities of " . . . increased cooperation between the United States and our NATO allies in military research and development."¹¹ His report, strongly supportive of standardization, came down hard on the SHORAD system:

The European countries having a direct interest, including Ministry of Defense and Industry spokesmen, and NATO officials, consider the Low Altitude Forward Area Air Defense Systems (LOFAADS) to be the major test of United States intentions to acquire a weapon system developed by European companies. This demonstration of United States intention by a decision to select one of the three candidate systems, Crotale, Rapier, or Roland, is in their minds more important than which of the three ultimately wins the competition.¹²

Fine's strong endorsement of the European systems was sent to DOD by McIntyre, asking for DOD response. The Department of Defense noted, in their April 18, 1974 response to McIntyre, plans to pursue the SHORAD authorization during the 1974 hearings on the FY 1975 Authorization Bill. They noted, however, that while the three foreign systems were leading contenders, "DOD competitive source selection procedures would be followed."¹³

It appears that the Department of Defense still considered the foreign systems to be the main competitors but recognized the political necessity of opening up the competition. This was

reflected in the testimony noted above and in the following testimony by Dr. Malcolm Currie, then Director of Defense Research and Engineering (who came to DDR&E from Hughes Aircraft and has since returned to Hughes where he is now Vice President for Missile Systems). Currie denied that any pressure was being exerted on the Army to buy a European system.¹⁴ Dr. Currie did note, however, that the Europeans were ahead of the United States in air defense systems.¹⁵ And, Mr. Augustine, in response to questions before the Senate Armed Services Committee from Mr. Fine (who, incidentally, after retiring from the Senate Armed Services Committee staff, went on to represent Euromissile, the Roland developer, in the United States) did not challenge Fine's assertion that the Army planned to buy a foreign system:

Mr. Fine. You are requesting \$35 million to initiate a United States-produced version of one of the three candidate foreign developed low altitude air defense systems. Because the alternative of developing and producing a new United States system would cost \$300 to \$400 million more this is a commendable action and should serve as further dramatic proof of our willingness to cooperate with our European allies in the development of weapon systems for common use by our forces. Can you identify any other candidates now being considered for similar treatment?

Mr. Augustine. Yes, sir. (Deleted.) The backup engine on the XM-1, or one of the backup engines, is a German engine. The track on the tank has a backup German development, as does the transmission, and some of the surface-to-surface missiles are short-range German contenders.¹⁶

Mr. Fine continued to support Roland during his last few years in the Senate, making at least two more trips to Europe, ostensibly to promote cooperation in general, but focusing more and more on Roland,

as he admitted in his third report:

I emphasized [in France] the need for all participants, government and industry, to dedicate themselves to the success of this program. I stated that Roland was the single major reason for my trip.¹⁷

Testimony during 1974 also focused on political problems of Americanization of foreign systems. The Army's project manager for the SHORAD system, Colonel Henry F. Magill did not see this as a problem; his 1974 testimony would later prove overly optimistic:

There are certain steps that we have taken on SHORADS to preclude finding ourselves in the same problem area.

For example, we will have competitive procurement. We will also not reengineer our system to meet standard military specifications. However, for any changes that we make in our current system, which will be moderate and few, we will build those changes, and engineer those changes, to United States military specifications.

In our RFP, we will ask the bidders to identify any changes or any deviations that they might have from military specifications.

We will also have generated test data to determine system performance prior to issuing an RFP. We have some general knowledge of each of the three foreign systems prior to issuing RFP.

We will also not have dual dimensions for this program. We will go metric if it is in metric, and we will go, of course, English if it is in English.

We will not have reliance on foreign parts. We will have minimum foreign offshore procured parts, and no critical component will be procured offshore.

Changes to our system will be tightly controlled. Any changes to the baseline will require Department of Army approval prior to making that change. Only changes that we have thus far recognized, and the user has concurred in will be considered on the three foreign candidates. Any additional changes must be, one, approved by the user; and two, approved by the Department of the Army.¹⁸

At this point, the House and Senate began to part ways on the SHORAD system. Skepticism over conflicting testimony regarding

inclusion of United States systems led the House Armed Services Committee to delete \$29.668 million of the \$35.1 million requested by the Army for testing of the SHORAD system in FY 1975. The House Armed Services Committee, among other concerns, cited wariness over Americanization of a foreign system:

The Director, Defense Research and Engineering has expressed interest in three foreign systems, the Roland, Rapier and Crotale. The salient feature of these systems is that their research and development phase has been completed. However, the Committee is concerned over the difficulties encountered in previous attempts to Americanize foreign systems. The Army's estimate for the cost and the time required to field any of these systems reinforces this concern. The Committee believes that there is American technology available that can be improved to provide the performance required in less time and at less cost. The Chaparral with a RF seeker and a pulse doppler radar is one possible alternative. There are others as well.¹⁹

Note the House Armed Services Committee's introduction, for the first time, of the United States Chaparral into the picture; it would later come to play a large role in the controversy.

The Senate Armed Services Committee, less concerned with this problem, authorized the full amount requested.²⁰

The Conference Committee, however, shared the concerns of the House Armed Services Committee, noting concerns over conflicting testimony and problems with Americanization:

While there is not a viable threat that has an all-weather capability at this time, both the House and Senate Armed Services Committees recognize the need to establish such a capability against potential threats. The conferees, however, were concerned with the conflicting testimony concerning the planned procurement of a SHORAD system. The Army indicated its intention to conduct an open competition for consideration of three foreign systems--the Roland, Rapier and Crotale, as well as proposals reflecting American technology. Several Defense witnesses, however,

submitted prepared statements indicating firm plans to procure one of the three foreign systems. The Department of Defense had estimated that procurement of one of the three foreign systems will result in a savings of several hundred million dollars. The conferees are not convinced that this is necessarily the case.²¹

The more conservative Conference Committee was also relatively negative with respect to the broader standardization issues and accepted in large part the language of the House Report:

Other reasons given for the procurement of one of the foreign systems are to realize a savings in time and to demonstrate our willingness to cooperate with our NATO allies. The conferees believe that while expediency is desirable, the time frame for the development of a viable all-weather threat is such that cost and performance effectiveness can be favored over time.

The conferees do not believe that it is necessary to procure a foreign developed SHORAD system solely to demonstrate cooperation with our NATO allies. The United States participation in the development of the NATO Patrol Hydrofoil Missile Ship is a very strong indication of our willingness to cooperate. While the conferees support cooperative programs with our allies, consideration must be given to the procurement of foreign technology or hardware on a case by case basis.

It is the view of the conferees that any competition conducted for procurement of a SHORAD system must be open to all prospective bidders to insure procurement of the best system at the lowest possible cost and within the required time frame. Therefore, foreign systems must not be favored because of the earlier availability of test firing data. An all-weather American system, for example, may never have been fired but could conceivably provide equal or greater performance than a foreign counterpart at a much lower cost.²²

It is interesting that none of the strong supporters of standardization from the Senate were on the Conference Committee; Senator McIntyre was the only one and his support for a foreign system was minimal.²³ In the end, the conference report authorized \$21.2 million of the requested \$35.1 million, roughly splitting the differences between the two committees.

The Appropriations Committees also were concerned with the preoccupation with foreign systems. In the House, the role of DDR&E in the 1973 controversy was raised again:

Mr. Giaino. The Senate report states that D.D.R.&E. has been exerting pressure on the Army to buy one of the foreign-developed missile systems to demonstrate cooperation with NATO allies in R.&D., and to show that the United States is willing to use a foreign-developed weapon system. Is the budget request based on a validated need or as a demonstration of good will?

In other words, is it military or political?

General Deane. It is a military requirement, yes, sir.²⁴

The House Appropriations Committee ultimately went along with the authorization committees and appropriated \$21.2 million for the SHORAD system. The Senate, on the other hand, cut the request another \$6 million, although not as a punitive measure, offering additional support should it be necessary.²⁵ The Conference Committee again split the difference at \$18.2 million, with no elaboration.²⁶

Following the January 9, 1975 selection of the Roland (to be built by Hughes and Boeing Aircraft Companies jointly) and the awarding of a \$108.4 million cost-plus-incentive-fee contract to Hughes/Boeing,²⁷ the Army asked for \$65 million in FY 1976 and \$13 million for the FY 1977 transition period²⁸ for engineering development tests and cooperative testing. According to Norman Augustine, testifying before the House Armed Services Committee:

. . . the purpose for the R&D is to verify that we can produce the foreign design after incorporating a minimal number of required changes. This will be followed by the absolute minimum amount of testing prior to a production decision. This testing

is required to fill the voids in foreign testing due to their limited test range facilities and restricted ECM test flexibility.²⁹

In this statement, Augustine noted for the first time that the United States planned not merely to adopt the Roland II directly, but planned to make some changes to the European version. During follow-on hearings, the House Armed Services Committee began to challenge the costs associated with this R&D. Originally estimated at \$108 million by Euromissile, Augustine was now estimating R&D costs of some \$237 million to transfer the system.³⁰ This figure was rapidly approaching earlier estimates of \$500 million for starting an entirely new system from scratch.

Congressman William Dickinson (R-AL) and Mr. Tony Battista, House Armed Services Committee staff member both came down hard on the cost increases and other issues during the House Armed Services Committee hearings. Their first challenge was why a cost-plus-incentive-fee contract rather than a fixed price contract had been negotiated, especially since there were supposedly so few technological problems involved.³¹ Second, they challenged Augustine's contentions that modifications to make the United States Chaparral all-weather would be more extensive than the changes required to adapt the Roland to United States production. They clearly felt that the Army and DOD were overestimating the expense of upgrading the United States system. Third they noted that current estimates of time required to transfer the Roland differed little

from estimates of time required to start a new system from scratch. And finally, they expressed general concern given the difficulties in the past with foreign procurements.³² They also spent an extensive amount of time trying to get the Army to clarify why it was necessary to make major modifications, especially with respect to Electronic Counter-Counter Measures (ECCM) capability that the Europeans themselves did not feel were necessary, at least at the current time.³³

The House Armed Services Committee's concern was mirrored in its report, in which they applied a cost ceiling to research and development of \$175 million:

Last year the Army defined the need for an all-weather system that could defend adequately against aircraft attacking in non-visual conditions. They expressed interest in three foreign systems, the Roland, Rapier and Crotale. The Army contended that the salient feature of these systems was the fact that the research and development phase had been completed. At that time the Committee expressed concern over the difficulties encountered in previous attempts to Americanize foreign systems. The Army's estimate for the cost and time required to field any of these systems reinforced this concern.

In January 1975 the Army selected the Roland system. The program, as proposed to the Committee, requires \$240 million for development. The Committee believes that this estimate is exorbitant and untenable. The time estimated by the Army to field this system is similarly untenable. The Committee cannot support this program as proposed by the Army. Therefore, the Committee directs that a total dollar limitation of \$175 million be placed on the development program.³⁴

The committee did, however, authorize the full \$78 million requested by the Army for FY 1976/77.³⁵

Testifying before the Senate Armed Services Committee, Secretary of Defense James R. Schlesinger emphasized the cooperative nature of the program, noting the variety of reactions from Congress

to the program the previous year (from very favorable in the Senate Appropriations Committee to very unfavorable in both Armed Services Committees). He emphasized that the cooperative Roland program avoided duplication of effort and aided standardization as required by PL 93-365, the FY 1975 DOD Appropriation Authorization Act. Yet, he emphasized, since it was to be produced in the United States, it would not hurt domestic interests.³⁶

Senator McIntyre expressed his concern, however, over the long time period to Initial Operational Capability (IOC) (64 months or five years and four months) and labeled this period as unacceptable. He was, however, strongly supportive of the overall program. In a letter to Secretary Schlesinger, he clearly expressed his support while suggesting several steps that might be taken to reduce development time:

I must strongly emphasize the importance that I attach to the Roland II development as the lead weapon system in cooperative efforts with our allies. The ability of the United States to demonstrate the efficient and timely adaption of a European development to meet United States needs is being tested. The inception of the Roland II program is the most critical time to join with our European partners in making our program and theirs as much alike as possible, and to create an effective joint program management organization. Any delay will make this more difficult or even impossible to accomplish. I urge that this program be given the highest priority possible.³⁷

The Army Acting Deputy Chief of Staff for Research, Development and Acquisition, Major General Howard H. Cooksey assured McIntyre that the Army was considering ways of reducing both the time and cost required to adopt the Roland and suggested a scaled-down program³⁸

which would reduce R&D costs to \$214.8 million versus the then estimated \$237.6 million with a new time to IOC of 57 months.³⁹ The DOD, in its formal response to Senator McIntyre, however, continued to insist on making national modifications to the French/German design⁴⁰ although the Army insisted it would make only "absolutely minimum change" and assured Congress that the Secretary of the Army would be the only individual who could " . . . authorize any change that affects the functional characteristics of the SHORAD system."⁴¹

Among specific interchangeable items, Colonel Magill identified the missile rounds, electronic hardware at the plug-in module level (printed circuit card) and mechanical hardware at the repairable subassembly level. National equipment (vehicles, communication equipment, IFF, environmental control units, etc.) would not be interchangeable.⁴² Magill did not, however, elaborate on changes such as ECCM equipment; Hyman Fine later questioned him on this. Again, Fine wanted to know why, since the United States and European systems would operate in the same threat area, a common ECCM design was not desirable. Colonel Magill was unable to answer Fine's concern although he did state it was being worked on.⁴³ However, Dr. Currie, less than a month later, indicated that our ECCM would still probably be different.⁴⁴

The final Senate Armed Services Committee report supported the program and strongly approved of the cooperative effort.⁴⁵ The conference committee did not address Roland since both committees

funded the request fully. Interestingly, the committee made no mention of the R&D ceiling which the House Armed Services Committee had applied.⁴⁶

The House Appropriations Committee again questioned the long lead time to IOC. Their report indicated that the Army tried to satisfy this concern, and now estimated R&D costs of \$177.3 million with a 54 month program.⁴⁷ Noting broader concerns dealing with air defense (the combined use of SAM-D and Roland in the same area, a new issue dealing with deployment of Roland to divisions, and the general need for Roland as opposed to fighter aircraft) in addition to their concern with costs associated with unnecessary modifications, the House Appropriations Committee recommended a \$20 million reduction in FY 1976 and a \$3 million reduction in the transition period for a total funding of \$55 million.⁴⁸

The Senate Appropriations Committee, on the other hand, responded positively to an appeal from Secretary Schlesinger in which he noted the political implications in Europe of the House Appropriations Committee's cut and restored the program to full funding.⁴⁹

The Conference Committee split the difference, appropriating \$66.5 million for FY 1976/77.⁵⁰ During 1975, however, new developments in the technology transfer program began to add to the political problems already being exploited by the House Armed Services Committee. The problem of transferring the European

drawings and processes into United States formats was proving to be much more complex than initially estimated. Some 65,000 documents and drawings, vice the original estimate of 48,000, had to be translated and converted.⁵¹ Hughes Aircraft was reported to be asking for another \$50 million beyond its original \$108 million to convert the Roland design and to test it for United States production, a 37% increase over the original contract.⁵² Additional cost increases were also estimated for future production. Both cost overruns were laid to the Army's insistence that 100% of the missile be United States built, with no dependence on foreign sources of supply. This requirement entailed higher transfer costs (conversion of specifications, additional testing, etc.) and higher estimated production costs (after the missiles finally entered production). As a result DOD began to put pressure on the Army to review its "100% United States-built" policy, asking them to consider direct purchase from Europe of basic module components with later second source production in the United States of "high-consumption" or replaceable parts.⁵³

An interesting challenge to Roland also came from the publication NATO's 15 Nations at approximately the same time. It challenged the extensive modifications being made to the system, many of which, the article argued, would make it incompatible with the European version of Roland, and would increase the costs and time to deployment, thereby negating almost all of the original

advantages to the purchase of a European system. The final implication of the article was that the United States had failed to seriously think out the implementation problems and had acted, in purchasing the Roland, largely for political reasons.⁵⁴

Hints of impropriety also began to surface at this time. Benjamin Schemmer, writing in Armed Forces Journal, International, reported charges that DOD had brought pressure on the Army to hold down initial cost estimates in order to make the European systems more attractive than a United States system.⁵⁵

These growing challenges to Roland carried over into the FY 1977 Defense Budget Hearings, where the House Armed Services Committee challenged both cost overruns and excessive duplication of production. Again, Representative William Dickinson (R-AL) pressed the issue. The Army defended the cost increases as a result of the difficulty of transferring technology without addressing the issue of why total United States production was necessary. The House Armed Services Committee raised for the first time the possibility of termination, asking what the termination costs would be (the response was, at that time, some \$43.3 million).⁵⁶ The Army again defended the cost savings, arguing that the \$240 million transfer costs of Roland compared favorably to estimated R&D costs of \$450 million for a full R&D program.⁵⁷

The House Armed Services Committee, in addition to exploring the possibility of termination, raised once again modification of the

Chaparral as an alternative to the Roland:

Mr. Battista. In your response to Mr. Dickinson, you just said you considered the alternatives, and I think one alternative that has been ignored by the Department is putting the RF seeker on the Chaparral. And to today, I cannot understand the reluctance to do that, since you have a perfectly good rocket motor, good air-frame and a good warhead on the shelf.

Now, that is a few million dollar effort that will give you, a viable alternative to the Roland, if you find out later you cannot afford it. But it has been suggested to everybody, and there is just an out-and-out refusal to explore that to any extent.⁵⁸

Dr. Currie's response failed to satisfy the committee. He was further challenged on the extent of ultimate interoperability, and responded:

Dr. Currie. We hope Roland will be in the NATO standard SHORAD system. As such it will be absolute interchangeability in terms of the ability to use United States produced missiles in European fire sections, and vice versa.

In addition, it will have considerable other interoperability.⁵⁹

From his follow-on testimony, however, it was clear that less than total interchangeability was to be the result of Americanization of the system; in fact, as it became clear, no one was quite sure what degree of interchangeability would exist.⁶⁰

Continuing criticism from the House Armed Services Committee during the hearings centered on, again, why DOD had attempted to procure a foreign system given previous problems with such transfers. Roland's problems were further linked to the Leopard tank competition and used as an example of problems which might be expected should the United States decide to buy the Leopard tank from Germany.⁶¹

Dr. Currie, however, continued to support the Army's Americanization and test program as necessary for the Army's world-wide mission.

Dickinson of Alabama continued to ride the Army and DDR&E, again raising threats of termination (estimated expenses of termination were now up to approximately \$56 million) and harping on his basic point of rising costs:

Mr. Dickinson. Well, I don't want to belabor it, but it is so much money we ought to be rethinking it. As I told you when we talked earlier, I cannot understand why we spend this sort of money to buy something that is supposedly off-the-shelf that was ready and operational and ready to deploy in Europe. Then we've got to go in and spend this sort of money.⁶²

Both Battista and Dickinson again pressed the Army for action on the Chaparral, challenging the Army's estimates of cost for an all-weather Chaparral and suggesting that the Army should try to come up with the money for the Chaparral modification and testing.⁶³

In one of the more frank exchanges of the hearings, Lieutenant General Howard H. Cooksey, Deputy Chief of Staff of the Army for Research, Development and Acquisition responded to Battista's comment that Cooksey had not been in his position when the Roland was selected, noting: "When the court-martial comes around, I want to have that on the record."⁶⁴

The House Armed Services Committee ultimately authorized the full \$85 million requested by the Army, but qualified it in two ways. First, a new and higher ceiling of \$220 million was put on the total development program (the old ceiling had been \$175

million). This was, incidentally, still \$20 million below the Army's current estimated R&D cost. Second, the authorization was made contingent upon the Army identifying \$3 million of FY 1977 R&D funds to develop and test an all-weather capability for the Chaparral. The Committee was especially critical of the Army's Americanization program:

In fiscal year 1975 the committee cautioned the Army to exercise good judgment in Americanizing the foreign developed Roland missile system. Contrary to this recommendation, the Army initiated a number of changes to the system resulting in both problems and increased cost.⁶⁵

The Senate Armed Services Committee hearings were, in contrast, highly supportive of the Army's efforts. However, in an interesting statement, the Army Secretary, in his prepared remarks to the committee, while noting the \$40 million cost increase, justified it as necessary

. . . to insure missile interchangeability with the French/German system Interchangeability of the Roland II missile between American and French/German Roland is an important step towards NATO standardization and is planned for accomplishment in the restructured program.⁶⁶ [Italics mine.]

This statement, never challenged by the Senate (as it should have been) confirms that standardization was not an original objective of the Army and became one only after Congress and DOD pressed it. The Army, by implication, was buying and modifying a European system to their own requirements. This was precisely the challenge the House had raised to the system, asking why, if standardization and cost savings were the original objectives, both were ignored

by the Army and Hughes in its early work with the system; as the House Armed Services Committee had noted, the modifications Hughes and the Army felt necessary both increased the cost and limited interchangeability. Ironically, to move backwards now, would cost even more money, as witnessed by the request for \$40 million in additional funds by Hughes.⁶⁷ The Senate, supportive of standardization policy, however, failed to seriously challenge either the Army, Hughes or the cost overruns, accepting them as a necessary, albeit costly, part of the policy game. To continue the earlier speculation, if the Senate suspected that the House Armed Services Committee, Hughes and the Army were in "collusion," harsh action or ultimatums on their part would only exacerbate the situation. Hence, a tolerant, supportive position was essential.

During testimony in the Senate, the Army continued to claim that the cost increases were not due to Americanization and modification. In response to a written question from Senator Culver, Army Secretary Hoffmann claimed that only 10% of the total research and development money went for adoption of national items and performance modifications. Nevertheless, a large part of the research and development cost and cost increases went to what was referred to as the establishment and verification of a United States production base "for procurement of Roland from an American source."⁶⁸ Hence, the insistence on 100% United States production was at least partially responsible for the higher costs. The irony, of course,

is that attempts to purchase parts abroad would have run into still another kind of opposition in the House: The Buy American Act. Hence, the House Armed Services Committee created a perfect no win situation (or no-lose from its perspective); to Americanize would lead to cost increases while not to Americanize would require foreign procurements which would run afoul of the Buy American restrictions. Either outcome would be considered sufficient rationale to kill the program.

In related testimony, Dr. Currie, defending the program, suggested less than total commitment on the part of the Army to guarantee the success of the program. In doing so, he illustrated the differing perspectives of the problem from the low-high dichotomy:

Mr. Fine. What are your views of the way in which the Army presently is managing the Roland development?

Dr. Currie. The way in which they are managing it? The Roland is a kind of program that we have never encountered before. It involves the importation of technology from another country, from another set of countries. The Roland is built by a series of 10 or 12 companies in France and Germany, each having somewhat different means of documentation. Their test procedures are slightly different than ours, although they were borrowed from us to begin with. But the importation of our own engineering procedures back to this country presents a new problem. So that we are running into some difficulties in doing this. It is very important that we do this right. It is very important that we make this program successful. And I think we can. This is an inclination to approach its management by the book, in quotes. But the book doesn't account for a program like this. The book only covers programs that are started from square zero in this country and invented and developed, and this whole sequence of preliminary evaluation, and then initial operational testing, and then low rate production and so on.

And this total procedure, if applied to the Roland program,

would mitigate the purpose of the program, which is to take a developed system someplace else and shave a time off the schedule and a lot of risk. So we shouldn't approach it as if it were a brand new program. I would say the Army is having some problems in accommodating to his new viewpoint. I am confident that it can accommodate. We have had a hiccup on the program. It is going to cost a little more money in R&D than we optimistically thought at the beginning. But I think during this process we are learning a lot, too, and we are learning a lot for other programs to use in the future.

So I don't want to be critical of the Army. I feel that I should be supportive of the Army in this venture, and I believe Congress should be, too.

Mr. Fine. Do you feel the Army is sensitive enough to the much broader implications of making this a successful program?

Dr. Currie. Some people in the Army are. I think some people in the Army, quite naturally, do not view it in the overall perspective that it would be viewed from Congress or from OSD.

Mr. Fine. Do you feel that the Secretary or the Deputy Secretary of Defense would support your position in this matter?

Dr. Currie. Absolutely. And I have discussed it with both of them.⁶⁹

The Senate Armed Services Committee was clearly concerned with the high-politics of the process, trusting that top level pressure would assure continued progress on the program.⁷⁰ The Senate, like the House, supported the full Army request (\$85 million), but, unlike the House, did not attempt to set any limits on research and development.⁷¹ Senator McIntyre's defense of the system on the Senate floor goes well beyond the level of support demonstrated in the House:

The Department of Defense is making noticeable progress in demonstrating that cooperative research and development and standardization of weapon systems with our allies can be successful. There have been some hard lessons learned in adapting the European developed Roland system for manufacture by United States industry. Neither the magnitude, nor the complexity of this task was adequately anticipated, with the

result that the total development cost has increased. But these lessons have proven the practicability of such a conversion, and will provide important guidelines for future cooperative efforts. Despite the increase in cost, the Army estimates that the United States will save more than \$250 million by avoiding the full cost of developing a completely new system of equal capability.⁷²

The Conference Committee report did not refer back to the House's \$220 million ceiling nor to the \$3 million Chaparral program stipulation in the House report.⁷³

The House and Senate Appropriations Committees spent very little time on the Roland during the FY 1977 hearings. Both approved the full \$85 million requested and authorized.⁷⁴ There was some slight pressure from the House Appropriations Committee, however, in the direction of direct purchases.⁷⁵

The \$40 million cost increase noted above was soon superceded by new cost increases. In late 1976, Hughes requested a further \$8 million. This \$8 million was provided to Hughes by Congress, but under new restrictions; funding was to be provided Hughes on a month-by-month basis. The \$8 million provided was seen as funding for the following month's work as well as for possible termination costs, pending a review of the entire program by the Defense Department.⁷⁶ One of the proposed steps the Deputy Secretary was considering was a further extension of the program (some 10 months) as a means of limiting the costs.

Against this background of growing conflict, the Armed Services Committees opened hearings in early 1977 on the Army's

request for \$64 million in research and development funds and \$67.1 million for procurement in FY 1978.

The House Armed Services Committee research and development subcommittee opened its hearings with a presentation by Mr. Anthony Battista, professional staff member. In his comments on the Roland, Mr. Battista was extremely hard on the Army's handling of the program, both its cost and its development time:

Now Roland was sold to the Congress on the basis of its having completed its Research and Development in Europe. That is in the testimony. But now the new testimony is, oh, no, it never really did complete its Research and Development. But the watch changed, so you can't find the folks who gave that testimony."

Representative Dickinson also challenged the program again this year:

Mr. Dickinson. I wanted to discuss the Roland with the Army. I had Tony with me. We went to the Redstone Arsenal in Alabama where they are developing it. I have a deep interest in it. We dug out the testimony. When they came before this committee, they first came in with a ballpark figure. They said that this is an off-the-shelf item of R&D. They said it is ready to be operational in Europe. We agreed to standardization with the NATO countries. This is a weapons system we can go with. They had the Roland. They selected this because they could bring it in because it was far along in its development.

Last year they came before us. They said it won't be \$130 million. They didn't know where the figure came from but it would be \$217 million R&D.

I asked Norm Augustine, "Can you bring it in for that?" He said, "Yes, I am sure that we can." I said, "If we were to put a \$220 million top on it, can you do it for that?" He said, "Yes."

Now, this year they are using the figure of \$263 million, as such.

Mr. Battista. Excuse me.

Mr. Dickinson. Yes.

Mr. Battista. It is \$265 million.

Mr. Dickinson. When I asked Norm Augustine this year if he agreed with that figure, he said "No." His figure showed

\$283 million. This is for the Roland.

Now, when do we get it? It is five to seven years from now if they go ahead full speed. This is part of the problem. Now Norm is gone.⁷⁸

Questioning by the House Armed Services Committee focused on several areas. First, they asked whether there were, in reality, any real cost savings from purchasing the Roland versus developing a system from scratch. The Committee was beginning to suspect the Army's assurances.⁷⁹

Second, they focused on the degree of interoperability which would ultimately exist. The Army claimed that "88 percent of the United States Roland air defense module's field replaceable sub-assemblies" would be interchangeable--that included the missiles plus some 550 components or "black boxes."⁸⁰

Third, they continued to harp on the cost growth, now at some 100%:

Mr. Ichord. We started out on this program in fiscal year 1976, the estimated cost then being \$120 million. I recall that the staff of this committee recommended against the Americanization of the system; but that the recommendation of the staff was not accepted by the committee. We went ahead and continued with the program, although everyone, particularly Mr. Dickinson, was raising "Old Billy Hell," to use a southern expression, about the cost of engineering for a foreign system.

Then from there, the next time we looked at the cost it had gone up to \$177.3 million. I understand the official DOD estimate now is \$260 million, the current unofficial Army estimate--and I don't know how official this "unofficial" Army estimate is--is now \$283 million.

Mr. Miller. The official Army estimate is \$265 million.

Mr. Ichord. Oh, we have another one in there.

Anyway, the program in less than two calendar years has experienced a cost growth of over 100 percent, regardless of what figures you use.

I think we probably should try to see if we cannot make this

a matter of fish or cut bait on the program, before you are authorized to proceed on the Roland system.⁸¹

Other testimony brought out the confusion surrounding the cost estimates over the previous four years.⁸²

Fourth, they asked again what the estimated sunk costs would be should Roland be terminated; the Army now estimated these at \$128 million.⁸³

Fifth, the Hughes contract with Euromissile and how it could be modified to allow second source competition in the United States was discussed. The DOD policy guidance on licensing agreements had created virtually a sole source procurement situation in foreign procurements. This will be discussed later, although it should be noted here that the Defense Audit Service (DAS) estimated that the cost to the United States could be as high as \$105 million due to restricted competition.⁸⁴

Sixth, they noted studies by the GAO which challenged the Army's R&D estimates as being still too low.⁸⁵ The GAO had released several studies, all of which were generally critical of the program.

Seventh, they again questioned why the Roland had been chosen in the first place, pointing this time to a British proposal for a fixed price contract on the Rapier.⁸⁶

The Army offered some defense of the Roland program, noting in general their recognition of the problems and documenting

actions being taken to correct them. Primarily, the Army was becoming more involved in the day-to-day management of the contract and had, as noted earlier, put the program on a month-to-month funding basis.⁸⁷ However, testimony by the Acting Director of the Office of Defense Research and Engineering, Mr. Robert N. Parker showed for the first time, that DOD was having some second thoughts on the source selection. It is interesting to note that this was Mr. Parker's first appearance as Acting Director; Mr. Currie had resigned and returned to Hughes Aircraft as a vice president responsible for missile systems.⁸⁸ The falling off at this point in DOD support for Roland (albeit, the fall off was very slight), is noteworthy:

Mr. Dickinson. In all honesty, and using 20-20 hindsight, did we make the right selection, and did we make the right decision, first, in going forward, and second, in selecting this over the other two competitors? It is too late to turn around now.

Mr. Parker. I would make the following comment. I believe that we were right in going forward. I believe that we could have made a different choice on the hardware and been less surprised in terms of the end price for development and unit cost, and perhaps had a little less performance, but nonetheless quite adequate. That is a hard judgment to make. But it is not clear to me that we could have not taken a different course, a different selection and been a little bit better off.

Mr. Dickinson. Even now you still feel that was the path we should have taken. You are satisfied?

Mr. Parker. I am still satisfied that the Roland is going to be a satisfactory system. And in hindsight, knowing what I do now, I think I would have made a different choice. But it is great to be able to look back. But nonetheless, not necessarily in terms of performance. I think that the hardware is going to be very good hardware, and will fill the need. And I think that it is very good to have something that is common with our German allies and the French in this case. And we will have the

interchangability of the missile and much of the hardware in the system. And when you consider the key location of our forces over there, I think that is very beneficial. And I can't understate the importance of the program as an indicator that the United States is willing to at least make serious efforts in the area of taking it on.⁸⁹

The fact that once Currie (who had strongly supported the program) left DOD, DOD support became more tempered, could call into question Currie's impartiality and overall role in the Roland case.

Parker also noted that only now had the Army and DOD gotten a firm hold on the project management and, by implication, was forcing Hughes and lower levels in the Army to cooperate on the program:

Mr. Dickinson. What about the projected price on Roland now. Are you satisfied with that?

Mr. Parker. No; I am not satisfied with it, but I believe that it is capped, Mr. Dickinson. And I believe that with the right kinds of things that happened in terms of preventing redesign, making major excursions in the program, that we were, I think, about to make, that we do have the interchangeability without a great deal of expense being incurred. But I am not all all pleased with our performance on the program. And I am not pleased about the cost of the production unit. And in looking back at some of the projections, I feel that we erred in allowing some of the optimistic projections of learning curves, for example. Nonetheless, I believe that the hardware is sound. And I believe the program is sound. And we are going to have a good piece of hardware in the field.⁹⁰

Consistent with its extended criticism of the program, the House Armed Services Committee report again set several legislative restrictions on the program:

The committee recommends authorization of the entire \$64.003 million requested by the Army with restrictions placed on the expenditure of funds for the Roland system but has incorporated specific restrictive language in the bill (section 203) designed

to prevent any further cost growth in the program and to insure a system compatible with that used by NATO allies.

The Roland Missile System is intended to provide the Army with a short-range air defense capability. The system was presented to the Congress in fiscal year 1975 as a weapon system that had completed its research and development phase in Europe and a system that would enhance the prospects for NATO standardization. Department of Defense representatives testified that hundreds of millions of dollars would be saved by having American forces use this system. The initial estimate to produce this system in the United States was \$130 million. In less than three years the cost growth for Roland is in excess of 100 percent. In addition, the committee is concerned that the Americanization will result in changes that will preclude interchangeability with its European counterpart.

The recommended legislative restriction placed on these funds requires that the Secretary of the Army provide written certification that the Roland will be developed in accordance with existing specifications and will be interchangeable to the maximum extent with the European version. The Department of Defense estimates that a total of some 500 field-replaceable subsystems will be interchangeable with the European system. The restrictive language requires that at least 350 of the subsystems be interchangeable. Additionally, a ceiling of \$265 million on the entire development program is recommended.

Should the Army Secretary find it impossible to provide the required certification, the committee recommends that the Army investigate other alternatives, such as the adverse-weather Chaparral, the Rapier, or other existing air defense systems to satisfy short-range air defense requirements.⁹¹

The \$265 million restriction (up from the earlier \$175 million and then \$220 million ceilings) was less arbitrary than it might appear, however; the Deputy Secretary of Defense had coordinated on and supported the ceiling.⁹²

The committee also authorized the full \$67.1 million requested for procurement (Pre-production tooling, design, etc.).⁹³

The Senate Armed Services Committee focused on only one area, and on that only briefly; that of alternatives to the Roland. They

appeared satisfied with the Army's defense of the Roland selection based on a reevaluation of the original four competitors, especially the Rapier.⁹⁴ The Senate Armed Services Committee asked if the Army had complied with the House Armed Services Committee's directive to use \$3 million for development and testing of an all-weather guidance package for the Chaparral. The Army indicated that they were working on the proposal. In reality, however, nearly a year after having been directed to accomplish it, they were only now ready to award the prime contract.⁹⁵ The Senate Armed Services Committee seemed satisfied, nevertheless.

The Senate Armed Services Committee recommended, without qualification, both the \$67.1 million requested for Roland procurement and the \$64 million requested for research and development.⁹⁶

The Conference Committee largely accepted the House Armed Services Committee's position, setting into their report requirements on the Army to

(a) complete development, test and evaluation for under \$265 million, and

(b) to guarantee interchangeability of at least 350 subsystems.⁹⁷

The Secretary of the Army was further required to respond within 60 days as to whether these conditions and others in the report could be met.⁹⁸

The conference report emphasizes the importance of the Roland

system to standardization policy, but, in noting the problems with cost overruns and uncertain performance, illustrates also the potential damage it could do to standardization programs in the future, a point which would become even more important over the next few years of the program:

The conferees are concerned with two aspects of the Roland missile system. First, the research and development costs have increased by over 100 percent since the start of the program and the procurement cost estimates for 17 batteries have increased by nearly 70 percent in one year. The second major concern is the international aspect of the Roland program. The Roland system is a French and German development and is being procured for the United States Army in an earnest effort to enhance standardization of NATO arms. The conferees support increased standardization but in the long run a program with excessive cost overruns and questionable performance would do more to delay standardization than to aid it. Therefore, it is crucial that the Roland system meet cost and performance goals.⁹⁹

On August 19, 1977 the Army responded to the Congress, confirming its ability, with one exception, to meet the criteria set out in the conference report.¹⁰⁰ The one exception was the \$265 million ceiling. The Appropriations Committee had determined that \$11.4 million requested by the Army for procurement purposes was actually an R&D task and should be charged as such. The Army asked that the ceiling be raised to \$276.4 million in their letter to Stennis.

The weakened DOD support for the Roland was also apparent during the House Appropriations Committee hearings. For the first time, to my knowledge, DOD admitted that the original contract with Hughes did not require any standardization of the United States

Roland with the European Roland. Mr. Robert Parker testified:

Question. Another source of cost growth--\$5.5 million in all--is said to result from recently established requirements for funding to support efforts in the area of international interchangeability. I have been told that the original contract did not provide for such activities. I thought that is what the Roland program was all about--international interchangeability. Please comment on the revelation?

Mr. Parker. The contract signed with Hughes on January 9, 1975, required that Roland hardware be standardized with hardware already in the United States inventory. As a result of congressional and DOD insistence in early 1975, that standardization of the United States and European Roland should be maximized, action was taken to realign contract requirements to realize this objective. The \$5.5 million attributed to international interchangeability resulted from the difference between the original standardization requirements of the contract and the current international interchangeability requirements.¹⁰¹

Some \$5.5 million (almost certainly a low estimate) hence was spent doing what many in Congress and in the Administration thought was being done in the first place!

Parker was also less emphatic in denying the extent of Americanization of the system than DOD and Army witnesses had been in previous years:

Question. A report on the activities of the Subcommittee on European Defense Cooperation presented at the North Atlantic Assembly in November 1976 stated: 'In adopting the Roland for its own use, the United States had made several fundamental changes The various changes have lessened the ultimate compatibility of the United States and European systems and has inevitably forced up the cost of adoption.' Please comment on this assessment.

Mr. Parker. Verbage is not incorrect but the degree to which design changes lessened compatibility is minimal.¹⁰²

Note that, while not denying that "fundamental" changes had been made (with it should be added, attendant costs) he continued to deny that

interchangeability had been sacrificed.¹⁰³

The House Appropriations Committee was the center for recommending the transfer of \$11.4 million allocated by the Army to the procurement account to the research and development account. They apparently felt that the Army was improperly funding an R&D cost under procurement. While no documentation is available as to why the House Appropriations Committee took this action, it is likely that they saw the Army as trying to hold down the R&D costs which critics of the system were focusing on. Whether the House Appropriations Committee sought to embarrass the Army further or if they were exhibiting genuine fiscal responsibility, the result was to throw a larger shadow over the whole program.¹⁰⁴ The Senate concurred with the House in this action.¹⁰⁵

In 1978 the House Armed Services Committee continued their hostility to Roland, again focusing on the Chaparral system as a "supplemental" system to the Roland. Questioning was especially harsh when dealing with why the Army was dragging its heels on the Chaparral all-weather modifications. The Army, in responding to questioning, noted that it had complied with the Committee's direction of some two years earlier and had completed most of the Chaparral all-weather demonstration program, with high success. But, they noted, they had no plans to go beyond the feasibility demonstration due to the planned phaseout of the Chaparral and its replacement with Roland.¹⁰⁶

This reluctance, along with the relatively successful outcome of the Chaparral study touched off a fusillade from Mr. Battista. Battista challenged the Army's testimony that at least another \$100-200 million would be needed to fully modify the Chaparral:

Mr. Battista. General, I don't mean to be contentious, but I just simply cannot believe that \$200 million is needed to put a transponder and an adverse weather capability in a system like Chaparral. You've got 500 of these things in your inventory today. Even if you put them in the reserves it would represent a quantum jump in performance, in capability, and we're several thousand systems behind the Soviets now as a postulated threat for the 1980s, 1990s, and, to be very candid with you, the Army's been trying to kill this program ever since it started because you had a terrible fear it was competitive to the Roland. I don't think that the cost factors have ever been looked at. I think, given the Roland, which I believe is going to be a fact, I would contend that you still would need Chaparral to go along with it. It's 500 more systems to complement the Roland system that you'll be buying.

General Keith. I guess it would be easy to agree with that, Mr. Battista, if we thought we could afford it. As you array the things that we need to do, I think that that falls lower in the priority list than some of the other things.

Mr. Battista. General, your people can make it not affordable, by giving you estimates of \$200 million, and that's what, I submit, they've been doing to you.

It's just ludicrous to think that it would take \$200 million to make a fix to the Chaparral system that would give you an adverse weather capability.

Similarly, if you wanted to add the FLIR to Roland to operate under a mission control, you could do that for a very few dollars per copy, or you could come in with an estimate that would make it very unattractive to do.

We've been following this for the last couple of years now. In fact, it came out of this subcommittee. And forget the Roland, because whether you have Roland or not, this is a very desirable thing to do and a very cost-effective thing to do. You've got 500 of these things, and I think it would be a mistake, a gross error, just to throw them away or put them in the reserves, with a very limited capability. I think somehow the dollars could be found to do this and to do Roland, too.

For example, have you really made the decision on Roland, how much it's going to cost per fire set and how much are those missiles going to cost? How do you know how many Rolands you're going to end up with? 107

This appears to be a case of the Army, probably justifiably, fearful that its new high-technology system, the Roland, would be scrapped should the Chaparral prove feasible. By this time the Army, originally having been forced to take the Roland, began to accept it and even to defend it, not an unusual development. The House Armed Services Committee was clearly less concerned than the Army with this problem, however, and in its report added some \$2.9 million in missile modification funds to the Chaparral procurement authorization budget in addition to the \$7.1 million already requested by the Army for other routine procurements. This \$10 million was to go for development of smokeless motors and an Identification Friend or Foe (IFF) capability on the current clear weather Chaparral.¹⁰⁸ In addition, they added \$10 million to the Army's R&D budget for high priority development of an all-weather capability for the Chaparral, noting that increases in procurement costs made the future deployment of the Roland uncertain and that an all-weather Chaparral would be a useful supplement to the Roland or a good substitute if necessary. The Army, in its budget request, had asked for only \$100,000 for this all-weather program.¹⁰⁹

In addressing Roland itself, the committee severely criticized the program, noting a 72% increase in R&D costs over four years and a nearly 100% increase over the original estimate for the total program.¹¹⁰ They also noted, in the hearings, that estimated procurement costs for the entire program had risen another \$300

million plus since the previous year's estimates.¹¹¹ In spite of their harsh appraisal of the system and additional warnings that if costs were not brought under control, the all-weather Chaparral would be looked at even more seriously, the committee did approve the \$202.7 million requested to enter procurement in FY 1979. Noting however, that the Army planned to enter procurement prior to completion of the ongoing R&D program to avoid further cost increases and program slippage, the committee forbid obligation of the funds until the Secretary of Defense provided written certification that the system had been adequately evaluated and all performance specifications met.¹¹² The committee made no change to the \$22.7 million requested for R&D funds for the Roland for FY 1979.¹¹³

In a related matter, the committee challenged a request for \$300,000 for a program with the Germans and French to evaluate the feasibility of extending the range of Roland. The outcome of this challenge is unclear; however, in examining the committee report, \$500,000 of the total \$1,344,000 requested for this and other similar programs was denied by the committee. I suspect that \$300,000 of the \$500,000 was that earmarked for the Roland test program.¹¹⁴

Incidentally, in spite of the Army's 1977 request to the Armed Services Committees that the R&D ceiling be raised due to the House Armed Services Committee's disagreement over classification of

funds (the \$11.4 million the Appropriations Committees insisted be considered as R&D rather than as procurement) it appears that the Armed Services Committees still considered the ceiling to be \$265 million--I found no evidence to indicate that the Armed Services Committees considered the ceiling to have changed. The Army, however, in the 1978 (FY 1979) hearings implied that they considered the ceiling to have been raised by the Appropriations Committee's actions; they further expressed uncertainty that this higher ceiling could be met due to complications arising from a strike at Boeing.¹¹⁵

Hearings in the Senate were largely pro-forma and supportive of Roland. Dr. Percy Pierre, Assistant Secretary of the Army for Research, Development and Acquisition reiterated the Army position that the R&D ceiling was now \$276.4 million. He also noted that they expected further disagreement from the House Appropriations Committee due to their allocation of procurement money this year. He also put a \$5 million estimate on the cost overruns due to the Boeing strike.¹¹⁶ The Senate appeared to be totally disinterested in these overruns and in the ceiling controversy.

In its report, however, the Senate Armed Services Committee did recommend a reduction in the procurement authority, from the \$202.7 million requested to \$99.4 million (a \$103.3 million reduction). This reduction, however, was not intended to show antagonism to the program, but rather prudence considering the

state of the program (including the slippage caused by the Boeing strike):

The Roland missile is the Army's first major effort toward standardization of weapon systems in NATO. The Army has been able to reduce development time and cost in the joint effort with Germany to field a standardized anti-aircraft weapon system. Currently, however, the Army is behind schedule, and in the process of correcting deficiencies found in the testing program to date.

Since this program is an important step in the United States' efforts toward standardization of weaponry in NATO, the committee is of the opinion that the Army should be in a position to field the most complete and capable system as possible. The committee believes that the initial procurement of missiles and fire control units should be deferred until all test corrections are proven and the Army can field a proven system. The committee has provided authorization of \$99.4 million to continue production planning and tooling effort to be prepared to initiate production when ready. This is a reduction of \$103.3 million.

The committee recommends denial of \$103.3 million of the budget request of \$202.7 million.¹¹⁷

In other procurement actions, the Senate Armed Services Committee approved the \$7.1 million requested by the Army for addition of an IFF capability to the clear weather Chaparral, but did not add the \$2.9 million the House Armed Services Committee had added for smokeless engines.¹¹⁸

For R&D authorization, the Senate Armed Services Committee added another \$11 million to the \$22.7 million requested by the Army for Roland and approved by the House Armed Services Committee to offset the slippage in the program noted earlier; confirming again their strong support of the program:

The Roland will replace the Chaparral as the Army's major short-range, mobile air defense system. It is a major step toward improving the two-way street concept between the United

States and our European allies since we are buying a major system developed by the French and Germans. The committee has strongly supported the Roland and continues to do so.

We recognize that there have been some slips in the Roland program as a result of a strike at Boeing, one of the major United States contractors, and some slips in the European portion of the test program. The committee has recommended a reduction of about \$100 million in the fiscal year 1979 procurement funding for Roland as a result of these program delays. However, this delay will require adding \$11 million to continue R&D through fiscal year 1979.¹¹⁹

The Senate Armed Services Committee's support was reinforced on the floor by Senator Ted Stevens (R-AK):

Roland missile: the committee recommends deletion of \$103.3 million for procurement of the Roland missile, which is to be procured in common with our NATO allies. We made certain changes here for the Roland missile, which goes primarily with the NATO forces. It was not a matter of deleting it. It is an important program for NATO standardization. The amount we reduced this matter was more because of new methods necessary in connection with the production. We recommended \$11 million in research and development for the purpose of correcting errors in production.¹²⁰

The Senate Armed Services Committee did not add additional funds for the Chaparral all-weather modification as had the House nor did they touch the \$300,000 requested for cooperative testing of the extended range Roland with the Europeans.¹²¹ Where the House consistently supported the Chaparral over the Roland, the Senate took the opposite position.

In conference, however, the House dominated on almost all issues. For the procurement issue, a compromise was struck with \$165 million authorized for procurement of Roland presumably with the certification by DOD still required prior to obligation of the funds.¹²² However, whereas the Army had originally planned to

procure 15 Roland units and 314 missiles with the \$200.1 million, by 1978, because of inflation, this money would buy only seven units and 157 missiles. The \$165 million compromise figure agreed on would purchase only three units and 75 missiles thus representing a further escalation of costs for a total now of well over 100%.¹²³

On other issues, the House won on the additional \$2.9 million for the clear-weather Chaparral smokeless motors, the deletion of the money for the follow-on test for an extended-range Roland, and the additional authorization of \$10 million for R&D work on the all-weather Chaparral.¹²⁴ They also succeeded in deleting the \$11 million in additional R&D funds for the Roland added by the Senate. In summary, the House won on every issue, reducing and qualifying funds for both procurement and R&D of the Roland and adding some \$12.9 million to the Chaparral programs.

The Appropriations Committees were generally supportive of the Roland program. No overly hostile questioning emerged in either set of hearings and the reports of both committees were supportive. The House Appropriations Committee on July 27, 1978 appropriated the full \$202.7 million requested for procurement of the Roland. This matched the amount which had been authorized by the House, but was well above the \$99.4 million authorized by the Senate. They also appropriated the full \$10 million (again the higher of the two amounts authorized by the two Houses) for improvements to the clear-weather Chaparral.¹²⁵ The Senate Appropriations Committee would later

(October 2, 1978) appropriate the full \$165 million authorized by the Authorization Conference Committee, but reduced the improvements to Chaparral by the \$2.9 million extra the House Armed Services Committee and the Authorization Conference Committee had authorized.¹²⁶ In the Appropriations Conference, the full \$165 million authorized for Roland procurement and the full \$10 million authorized for the clear-weather Chaparral procurement were approved (including the \$2.9 million the Senate Appropriations Committee deleted).¹²⁷

Under R&D, the House Appropriations Committee appropriated \$32.4 million for Roland, more than the House had authorized and the authorization conference would later agree on (\$22.7 million), but also slightly short of what the Senate had authorized (but only because of a decreased estimate of the impact of the Boeing strike).¹²⁸ The Senate Appropriations Committee report, released after the authorization bill was largely firmed up, appropriated the full \$22.7 million which was ultimately authorized for Roland R&D;¹²⁹ this figure was supported in conference,¹³⁰ and was probably limited only by the final authorization action; i.e., both committees were supportive of the Roland program and would have provided the full amount authorized.

No R&D money was added to the all-weather Chaparral program; both committees approved the requested \$100,000, well below the figure of \$10 million which had been authorized by the House and the conference.¹³¹ Finally, the Appropriation Conference supported the

\$500,000 decrease in authorized funds for missile and rocket components, presumably including the \$300,000 for testing of an extended range Roland with the Germans and French. The House Appropriations Committee had kept the money in, even though the House Armed Services Committee had already removed it. The Senate Appropriations Committee, in recognition of the final authorization limit, removed it; thus the removal was in recognition of an authorization action.¹³²

In summary then, the Appropriations Committees fully supported the Roland program itself and further failed to go along with the House Armed Services Committee and the final authorization bill on extra funding for the Chaparral missile. The full amounts authorized for Roland procurement and R&D were appropriated. The House Appropriations Committee report, dated July 27, 1978, appropriated the maximum amounts for procurement and R&D which had been authorized at the time their report was finalized; i.e., the \$202.7 million procurement authorized by the House on May 24, 1978¹³³ as opposed to the Senate's final authorization on July 11, 1978 of \$99.4 million,¹³⁴ and the \$32.4 million in R&D which was only slightly less than that authorized by the Senate (as explained above) over the \$22.7 million authorized earlier by the House. Later, the Senate Armed Services Committee would adjust both the procurement and R&D figures to the maximum finally authorized. The Appropriations Committees tried to keep the \$300,000 for joint development of an extended

range Roland, but again succumbed to the authorization ceiling. And, finally, for the Chaparral, they supported only the additional funding for modifications to the clear-weather Chaparral (including the \$2.9 million added by the House Armed Services Committee to the \$7.1 million requested by the Army; they refused to appropriate additional R&D funds to develop the all-weather Chaparral, which would be a clear threat to the Roland, even though the money had been authorized.

Turning now to FY 1980, the House Armed Services Committee and House as a whole finally made good on their threats of the previous two years and recommended termination of the Roland program. The Army, now 100% behind the program, at least in all positions with any formal responsibility for the program, had asked for \$296.9 million in procurement funds for Roland: \$283.3 million to procure 410 missiles, 18 fire units and associated ground support equipment plus \$13.6 million for procurement of spares.¹³⁵ They also requested \$20.7 million in procurement authority for Chaparral, \$3.2 million of that for procurement of smokeless motors to replace shelf life motor losses, \$16.1 million to complete procurement of Identification, Friend or Foe (IFF) units and \$1.4 million for spares.¹³⁶ In addition, they requested \$11.3 million in R&D funds for Roland to finish the technology transfer,¹³⁷ and \$6.1 million in R&D for Chaparral for development of a Forward Looking Infrared System (FLIR), which would provide a night firing capability and

slightly improve the all-weather capability of the Chaparral.¹³⁸

The Army, in its presentation before the Committee, was very optimistic concerning the performance of the Roland, in spite of the numerous problems encountered in the test program.¹³⁹ Further, they noted in glowing terms how standardization objectives had been met.¹⁴⁰ The Army also noted, however, and more than in passing, additional cost increases. By now, the program had escalated from the 1974 estimate of \$942 million to current estimates of as high as \$2.3 billion.¹⁴¹ The Army and DOD admitted that concerns over the cost increases were leading them to look at alternatives.¹⁴² They both, however, expressed support for the system on a technical level.¹⁴³

Opposition to the Roland again consumed most of the hearing record in the House. House staffers Anthony Battista and Justice White were especially critical of the cost overruns, the failure of the Army to evaluate and develop alternatives to the Roland and the political nature of the original selection. Battista led off the challenges:

Mr. Battista. It happened before your [Dr. Pierre] time, but this committee recommended killing the Roland program before it got started. This was simply because, back then, the forecast was you had the cost overrun and that would not be performance effective. I think then we found it was a political program. There was every indication the Army really didn't want the program. It was directed by OSD at that time.

Here we are with a system that supposedly would cost \$900 million in total program cost. Our latest figures are \$2.4 billion.

I think, as Mr. McDonald pointed out, the main issue is not

how much something cost. It is how will it enhance our military capability?

As you know two years ago, we were given a copy of an unsolicited proposal for the Rapier system. It proposed twice the number of units for \$300 million less cost. The Army would not consider it. I am wondering at this time if the Army can afford Roland and, most importantly, whether it will do the job. No longer is this a forward area system. Now it will be deployed in the rear area. We had to give us [sic] a lot in the way of performance on Roland. I think this committee is most interested in knowing when the studies will be completed and the results.

I think the main objective is to give the Army the best practical cost. I am wondering now whether the Army can, in any way, afford the \$2.4 billion price tag for 180 of the Roland systems. When will somebody put the lid on this?¹⁴⁴

and continued:

Mr. Battista. General, you've talked about the real expensive sort of things that we have on the drawing board like the Roland, \$2.3 billion.

Isn't it in fact true that the Army has dropped the ball on enhancing our capability through product improvements?

For example, the Vulcan gun is rather effective, very dependent upon operator proficiency. But General Electric, for example, developed something called the Avad, the automatic track mod to the gun. For \$125,000 a copy the Army could have retrofitted all of the Vulcans and given you a real fine capability against the threat. It chose not to do it.

Similarly with the Chaparral. This committee has been trying for three years now to get the Army to put an adverse weather capability in the Chaparral and the Army will not do it.

These are things that enhance your fighting capability for a relatively small investment.

Are we missing the boat? In your personal judgment aren't these things that should have been done?¹⁴⁵

Although the Army did admit they were looking at alternatives, they strongly suggested that they still expected the Roland to be the most cost-effective.¹⁴⁶

Battista and White, along with Congressman Ichord (D-MO), raised again the possibility of termination of the entire program:

Mr. Ichord. How much have we spent on Roland now Americanizing it?

Mr. Moore. We have spent about \$275 million in the R&D program.

Mr. Battista. You have an additional \$100 million in procurement also.

Mr. Ichord. So we will have about \$400 million in it if we don't make the decision to procure it.

Mr. Moore. That is correct.¹⁴⁷

The Chaparral, in spite of Battista's interest in the Rapier above, was the clear choice of the House Armed Services Committee as an alternative to the Roland.¹⁴⁸ In all probability, the Rapier was a useful weapon to be used to attack the Roland, but it was unlikely that the House Armed Services Committee at that point seriously considered it a valid alternative to the Roland. While it would later come to play a part, that role was part of a completely different and unrelated transaction, that of the Trident missile sale (see below). In spite of the praise Battista heaped on it, it came no closer to satisfying his or the rest of the committee's clear preference for a United States system, for both political and technical reasons (problems would still exist in converting Rapier to United States production and there was not chance that a major United States direct purchase of Rapier would be considered favorably by the House Armed Services Committee unless, as later did occur, it was tied to sale of some major system to the British).

In its report, the House Armed Services Committee, as noted earlier, terminated the Roland program (by a vote of 31-12).¹⁴⁹

They also added an additional \$12 million in procurement funds

and \$4 million in R&D funds to the Chaparral FLIR (Forward Looking Infrared System) modifications, hoping to accelerate the all-weather program by 12 months.¹⁵⁰ The test of the committee report on the Roland follows:

Roland. In 1974-75, the Army considered alternative systems for the short range air defense (SHORAD) mission and after conducting what the Defense Audit Service has described as a very questionable evaluation, the Army selected the French/German Roland missile for adaption and production in the United States. Because the selection coincided in point of time with a rising emphasis on NATO equipment standardization and interoperability, the decision was significant as a symbol of United States willingness to procure selected equipment of European origin.

Proponents of NATO standardization defended the choice of Roland not only on the grounds of its purported military effectiveness, but also because it was supposed to be a mature system that could be fielded by the United States as early as 1979 at a savings of several hundred million dollars. Unfortunately, the Roland experience has failed to fulfill its bright promise. The annual testimony before the R&D subcommittee provides an audit trail of cost escalation:

Fiscal Year	Program cost estimate
1977 - - - - -	\$942,000,000
1978 - - - - -	1,572,000,000
1979 - - - - -	1,900,000,000
1980 - - - - -	2,309,000,000

In a report dated April 26, 1979, the Defense Audit Service estimated the program acquisition cost would eventually exceed \$3.7 billion, or more than four times the estimate given to the Congress only three years ago.

Last year, despite its reservations, the committee recommended that the program not be slowed since there were insufficient data available to make a final determination on whether or not the program should be terminated (the testing was still in process, and the Army was just beginning its cost and operational effectiveness analysis (COEA). The committee concluded at that time that delaying the program would only serve to further escalate the costs. This year, however, the record is a great deal more comprehensive and the evidence is that Roland, is simply not cost effective.

For over a year the Army Training and Doctrine Command (TRADOC) conducted a series of complex air defense studies intended to determine what the cost effective mix of air defense

systems would be for the United States Army to deploy in the NATO environment. One basic conclusion of all the studies was that the Roland program should be terminated because, for every mission where Roland could be considered a candidate system, alternative systems are available that provide comparable defense capability at significantly less cost.

When the Army Systems Acquisition Review Council (ASARC) met on April 24, the key decision makers of the Army were told that the user--that is, the Army's air defense experts--preferred product improving systems already in the field over procurement of Roland, a preference supported by analytical studies done to date.

The ASARC was also told that within present funding constraints, the Army could not afford to procure the costly Roland system which would require more than \$1.8 billion in the next five years.

The basic issue which confronts the Congress is not whether Roland will be an effective system, although the General Accounting Office has expressed some concern about how effective it will be. Nor is the issue a matter of whether Congress should support NATO standardization and interoperability initiatives. The Congress is already clearly on record with the Culver-Nunn Amendment in support of such initiatives--where militarily desirable. The basic issue is whether or not Congress should support such initiatives even when they are not cost effective. In the case of Roland, the Army's own studies indicate that it could cost as much as \$2 billion more than alternatives yielding roughly equivalent capability.

The committee continues to support cost-effective NATO standardization initiatives. But since each program must stand on its own merits, the committee recommends deletion of the entire \$283.3 million requested for procurement for the Roland program and \$13.6 million for spares and repair parts with the intent of terminating the program.

Consistent with this action, the committee finds that a minimum of \$65 million from the fiscal year 1979 program is no longer required, and thus, this authorization is available for transfer forward as an offset to the fiscal year 1980 Army missile account.¹⁵¹

The contentions and conclusions of the report were by no means as conclusive as indicated. They are not supported by the official hearing record, but may very well be what the committee was hearing from lower levels in the Army, as they indicate. While those

with formal responsibility for the system were locked in step behind Roland in the hearings, the House Armed Services Committee apparently, as they state in the report, was hearing contradictory information from users, e.g., the Army Training and Doctrine Command (TRADOC). Visible here is the subgovernment in operation, with the House Armed Services Committee and its subcommittees and lower levels in the Army bureaucracy in agreement in opposition to the Roland. The contentions of the House Armed Services Committee report were to be challenged during Senate hearings, as the Army and DOD defended the Army Systems Acquisition Review Council's (ASARC) decision to recommend to the Defense Systems Acquisition Review Council (DSARC) that Roland go into production.

Several reports and studies noted by the House report played an important role in this debate, first in the House and then in the Senate. The reports emerged from three agencies, the Congress' own General Accounting Office (GAO), the Defense Audit Service (DAS) and the Army. Although most of the reports are classified, a general feel for their contents is available from the open press and from the hearings. In short, they all criticized the cost-effectiveness of the Roland and argued that other systems would perform part or all of the Roland's functions at a lower cost. While some questions were raised (primarily by the GAO) as to the ability of Roland to accomplish its mission (a technical question), the main thrust of the reports appears to have been cost-effectiveness. It was

these reports to which the House Armed Services Committee report referred and which helped reinforce House Armed Services Committee opposition to the system.

Within the Army, some four studies were conducted. Three were by the Army Air Defense School, part of the Training and Doctrine Command (TRADOC). A fourth, was conducted by the Independent Air Defense Review Group, a group chaired by the Deputy Undersecretary of the Army for Operations Research, which was set up for the purpose of "reviewing" the other three reports (which, keep in mind, had been critical of Roland), and notably at a much higher level in the Army command structure.¹⁵² According to an unclassified GAO report, all four Army studies, the DAS study and their own studies recommended against continuation of the Roland program.¹⁵³ Nevertheless, as the House Armed Services Committee report notes, the ASARC recommended production of the Roland on April 24, 1979.¹⁵⁴ The House Armed Services Committee action was a response to this decision (which they saw as ill-advised) and was designed to preclude a favorable decision on Roland by the Secretary of Defense (through the DSARC).

The first hearings before the Senate Armed Services Committee (subcommittee on General Procurement) on the FY 1980 authorization were held prior to release of the above reports (Army and DAS) and prior to the ASARC production decision. For the first time, Army witnesses came under sharp questioning in the Senate, primarily from

Sen. Harry F. Byrd (I-VA) and Sen. Barry Goldwater (R-AZ). Witnesses were Major General John J. Koehler, Commanding General, U.S. Army Air Defense Center and Colonel Leo C. Waible, Chief, Missiles and Air Defense Systems Division. Noting preliminary reports on the results of the Army studies, Senator Byrd pressed General Koehler for additional information--Koehler, and later Waible, both were forced to hedge, claiming that any discussion of the studies would prejudice the validity of the studies (at that time the studies were being reviewed by the review group mentioned earlier at the Undersecretary of the Army level).¹⁵⁵ In questions submitted for the record, however, both Waible and Koehler did admit that the studies showed that, in many areas, the Roland was not the most cost-effective system--again, however, they carefully hedged on these prepared answers; it was clear that the Army was divided on the issue.¹⁵⁶

Other questions submitted by Senators Byrd and Goldwater focused on the Chaparral as a replacement for the Roland and on termination costs for Roland.¹⁵⁷ Senator Byrd and Senator Strom Thurmond (R-SC) also raised the issue of the Roland's test performance (as challenged in the classified GAO reports). The Army defended strongly the missile's performance, detailing the steps taken to correct the problems noted by the GAO.¹⁵⁸

While this relatively harsh session was really the first serious questioning of the Roland system by the Senate, it is noteworthy that it occurred in the subcommittee on General Procurement

and not in the Research and Development subcommittee. The R&D subcommittee, headed earlier by Senator McIntyre and at this time by Senator Culver (D-IA), had always been supportive of standardization issues. The General Procurement Subcommittee had not previously become involved with these issues. Further, Senator Goldwater, as indicated by interviews with several Senate staffers, has not been sympathetic to forced foreign procurement for standardization purposes per se.

In spite of the vocal challenges to the Roland in these first Senate hearings, it appears that the subcommittee was not united in its opposition to the Roland, as evidenced by a later hearing of the full committee, where the chairman of the full committee, Senator John C. Stennis (D-MS), noted:

We appreciate the presence here of each member and each of the witnesses who made special arrangements to be here.

The membership will recall that there was discussion on the Roland missile, but there were points made about the differences between statements filed. It was decided it was best to have you gentlemen here as a group, and we will ask you questions that relate to these matters. I will call on Senators Jackson and Goldwater since they have a great interest in this issue.¹⁵⁹

And:

Gentlemen of the subcommittee, we appreciate the fine work done by the subcommittee on this. As the Chair understood then and understands now, there was not a recommendation from the subcommittee on this particular point. The two Senators from Virginia and Arizona, Senators Byrd and Goldwater, both recommended against the Roland, but in view of the conflict in the testimony and the lack of recommendation from the subcommittee, I suggested that we have this hearing.¹⁶⁰

That the full committee took up the issue indicates an inability to

resolve the issue at the subcommittee level and/or significant opposition at the full committee level to the subcommittee's actions, probably both. Also, the recommended termination of the Roland by the House Armed Services Committee brought the issue to a crisis and prompted Senator Stennis to call a special meeting of the full committee to discuss the program.

In defense of the program, Dr. Perry and Dr. Pierre provided very strong support for the Roland, noting that the cost issue was a false one and that technical problems had been or were close to being solved.

Dr. Perry's comments on the cost issue are quite good and do lead one to wonder if, in fact, it is a red-herring being used by the Army user commands to sabotage the system:

I would like to make a few comments about cost effectiveness analyses in general, which express a concern I have of basing decision solely on the analytical computations which we can put into a computer and then get out of a computer. The particular problem we have is that every time we bring a system up to the point of production after four, five, or seven years of development and with great expense we stop at that stage and compare that system which has gone through the agonies and expense of development with other systems not yet developed or not yet at the same stage of development. Those systems always look more attractive because we can always imagine advanced technology in them and, most importantly, we can always take an optimistic view of their cost and their technical problems and development.

As a matter of fact, the system which would win the cost-effectiveness analysis competition today would be the Roland system as we conceived it five years ago. The difference between now and then as we have learned are the problems of that system. We have experienced the cost growth in that system whereas the other systems we are comparing it with we have not yet learned what those problems are that will be ahead of us. This problem of pausing before production and comparing the system we are

ready to produce with systems not ready for production has a popular name in the Pentagon, it is called paralysis by analysis, and that is precisely the problem that stops us from going ahead and getting equipment in the field which we need.¹⁶¹

He also attacked the Rapier and Chaparral, the most frequently mentioned alternatives to the Roland:

. . . it has been proposed that the Rapier system, the British system, should be procured instead of Roland. I would like to put that in context. (Deleted.)

What is being proposed is a system that does not exist; it is a postulated development which would lead to an improved Rapier system and that system now is the one that is being proposed that we should buy instead of buying the Roland system. Even if the cost estimates are achieved and even if the technical features of that system are achieved, (deleted).

Finally, it has been proposed that the Chaparral system could be used instead of the Roland system and I would again point out to you what is being proposed is not our existing Chaparral system but a development which would lead to a greatly improved Chaparral system. This involves taking the seeker which we are now developing for the Stinger post and putting it in the Chaparral and it involves adding to the Chaparral a forward looking infrared system for night operation. That activity is a development program which will take several years. We are not in a position today to begin the production of that system; it involves a delay and it involves the usual uncertainties in development and testing.¹⁶²

Dr. Pierre reinforced Dr. Perry's comments, arguing that the Undersecretary's Review Group, which he noted was set up "to determine if the [TRADOC's] study analysis did in fact support the [TRADOC's] conclusion" determined that " . . . the ongoing TRADOC studies have both important strengths and limitations relative to earlier air defense studies"¹⁶³ He went on to conclude:

Most important, the alternative solutions to the SHORAD requirement were simply not credible enough, or at least not supported by sufficient data, to convince the ASARC that the costs, technical risks and development times could be prudently

relied upon. The bottom line was that the TRADOC COEA was incomplete and not sufficiently convincing as to outweigh the many considerations which favored the Roland system. In essence the ASARC revalidated the priority need which had driven the decision to initiate the Roland program five years ago and determined that producing Roland was the quickest and surest means of satisfying that need. The ASARC was sensitive to the fact that there is no near term alternative to Roland. The ASARC concluded that Roland should be recommended to the DOD DSARC for production notwithstanding the TRADOC position.¹⁶⁴

He also attacked as incorrect and misleading the DAS's report which found the British Rapier system more cost-effective than the Roland.¹⁶⁵

Senators Byrd and Goldwater both continued their attacks, focusing primarily on the cost-effectiveness issue. General Koehler, representing what he painfully noted was the middle position between the program and policy levels, or as one could view them, the low and high levels, was challenged by both Senators. As such, he was forced to waffle, arguing both for and against the same system:

General Koehler. Mr. Chairman. I am caught in the middle. I represent TRADOC which is Training and Doctrine Command and I have the responsibility for doing air defense cost effective analysis studies. You have already seen the results of the most recent studies, copies are here, and you have seen the TRADOC recommendations which said that Roland does meet the all-weather requirement.

My final comment is based on cost effectiveness results from the study, TRADOC concluded that barring overriding national and international considerations Roland should not be procured at this time. We had the ASARC, sir, and of course the Army decision was one that we should go to production.

I commend you to read the message from General Haig and the fact that this was supported by General Blanchard, the fact that we should not be changing our mind, we should be going with the production of Roland because it is something that we need in the field. I sympathize with the men in the field, having served there seven years and just returned. There is a need for

modernization and I covered that in my statements previously that I gave before the committee.

There are concerns. As the user representative I represent not only TRADOC but also the unit commanders in the field. These commanders have expressed a desire to get the Roland fielded as soon as possible, the fact that there is a military need for it.¹⁶⁶

He was finally pinned by Senator Goldwater:

Senator Goldwater. One more question for you. In your best professional judgment, is the Roland system the best option for the United States Army in the context of the total air defense family of weapon systems?

General Koehler. Sir, I stand by the studies and indicate in the studies that there are other alternatives available that would meet the challenge.¹⁶⁷

Having played cat and mouse on the cost-effectiveness issue, the focus began to shift to the one the Senate is best geared to, that of high policy. Senator Henry Jackson (D-WA) first raised the high issue about three-fourths of the way through the hearings (Jackson, of course, was keenly interested in keeping the Roland for pragmatic, constituent reasons, given the location of the Boeing factories which would produce both Roland and the AWACS aircraft. United States purchase of Roland would encourage NATO purchase of the AWACS):

Senator Jackson. Finally, if this system is cancelled what will be in your judgment the political impact as to other systems that our allies are procuring from us, systems that they have agreed to?

Dr. Perry. I have the responsibility of working out for the United States the cooperation programs with our NATO allies. Normally, we have a whole host of programs that we are discussing and debating with our allies today on which we would like to cooperate in development and procurement, the objective of which is to reduce the development and procurement cost and to stretch out our R&D dollars further.

I think this is a very worthwhile objective and the success in being able to do this is hard to predict now. We have a very

tenuous problem because of our problem of credibility. With respect to those programs that we have cooperated on in the past, we have often backed out of the program before we actually completed it. If we cancel this program now, it would simply be one more bit of evidence that we are not serious about cooperative programs and it would certainly complicate my job enormously in trying to get other cooperative programs going.¹⁶⁸

Senator Tower (R-TX), reinforced Jackson's point. In questions directed at General Koehler, he forced him to go beyond his previous emphasis on cost and reiterate, albeit still hedgingly, that the Roland could meet the SHORAD requirements, a fact which was often ignored.¹⁶⁹

Following additional arguments supporting the Roland, Senator Nunn concluded the hearings with a lashing attack on the Army and the broader defense community for their insistence on Americanizing the system. In doing so, he highlights what was probably a major cause of the Roland's development problems and cost overruns, yet emphasizes the low-policy wall which, in effect, requires continued Americanization in order to win even grudging service/House support of NATO purchases:

I happen to believe, as Senator Tower has indicated, that the greatest mistake right now would be to cancel the system, so I am agreeing with you. I think we have gotten in an unfortunate position because our Army--and not just the Army--insists that nothing can be done in terms of doing it right unless we Americanize it, and we are fighting over there in the Alliance. If we are not going to participate in the alliance, let's get out of Europe. But if we are, it does not mean that we have to have everybody more superior than those who are on our flanks. If we lose the flanks, we are going to lose anyway.

I don't know of a single military person that will tell you that America can hold out unless our allies also hold out. I think we are participating in an absurdity to think we have to Americanize every single system. I really believe that we have talked about a two-way street on this committee. We have talked about it, and we passed standardization after standardization

act. The House has always been against it, but we have managed to prevail--water it down a little, make a little progress here, and yet I don't see that the Department of Defense is really willing to standardize unless we do it everything American.¹⁷⁰

In its report, the Senate Armed Services Committee authorized the full amounts requested for procurement and R&D of the Roland and the Chaparral. In doing so, they showed strong support for the Roland and a limited support for the Chaparral, providing the R&D funds requested for developing Chaparral's limited all-weather capability, but not the extra funds authorized by the House to expedite the program.¹⁷¹

In conference, the House receded on the termination of the Roland program (authorizing \$308.2 million as requested) but the Senate was forced to recede on the Chaparral issue (authorizing \$42.8 million), thereby authorizing a full effort in both programs, a total of \$16 million above that requested by the Army.¹⁷²

Incidentally, the termination of the program by the House Armed Services Committee had been opposed by the House Armed Services Committee Chairman, Mr. Melvin Price (D-IL), as he noted on the House floor.¹⁷³ As chairman of the House conference delegation, his opposition to the termination probably played a significant part in the Senate's victory, although I suspect that the Senate would have fought this issue long and hard; neither of the two major Senate opponents of Roland (Byrd or Goldwater) were, incidentally, members of the conference committee while both Senators

Nunn and Culver, strong proponents, were.¹⁷⁴

In hearings before the House Appropriations Committee, many of the same cost-effectiveness issues were raised. Dr. Pierre reiterated much of the same defense in support of the ASARC decision. His main defense was that the Roland met the requirement, was a known quantity and was ready to go into production. Further, the alternative systems were either as expensive or did not meet SHORAD requirements (i.e., the Chaparral was not an all-weather missile). Finally, as Pierre noted, the ASARC questioned whether the projected R&D schedules for the alternatives were realistic and noted that, even if cost problems did not develop, the alternatives would still not be available for several years after the Roland.¹⁷⁵ A letter from Walter B. LaBerge, Undersecretary of the Army to the Secretary of the Army dated April 27, 1979 explained and defended the ASARC decision. In it, Dr. LaBerge noted the above, but also noted the RSI implications of the Roland. The Deputy Chief of Staff level of the Army Staff had presented this political argument to the ASARC and LaBerge noted this argument as an important part of the rationale supporting the Roland:

The ASARC recognized the importance of the implied commitment to produce Roland made by the United States in the Long Term Defense Plan and in its Memorandum of Understanding with France and Germany. Further, the ASARC concluded that United States use of Roland was an important element in the present consideration of Patriot by the Europeans for its high and medium altitude SAM system.¹⁷⁶

LaBerge, it should be emphasized, has played an important

role in standardization policy and implementation since the beginning of the recent initiatives. As Assistant Secretary of the Air Force for Research and Development, he was an early supporter of greater standardization. His follow-on job with NATO as Assistant Secretary General for Defense Support reinforced his support of standardization; he strongly supported Roland as a sterling example of cooperation/standardization in an article in NATO Review in 1977.¹⁷⁷ His current position as Undersecretary of the Army might be viewed as an attempt to bring the Army into line with standardization. LaBerge as Undersecretary of the Army was not a regular member of the ASARC. He did, however, attend this ASARC, and was probably a significant presence.¹⁷⁸ Again, this entire ASARC/Roland debate clearly illustrates the clash between high and low politics.

In its report, dated September 30, 1979 the House Appropriations Committee was critical of the ASARC and DSARC decisions to enter production of the Roland given the Army, GAO and DAS reports and studies which recommended against production. (The DSARC had recommended to the Secretary of Defense that he approve production of Roland on May 31, 1979.)¹⁷⁹ Nevertheless, the House Appropriations Committee did recommend appropriation of the full amounts for Roland procurement and R&D requested by the Army (\$308.2 million).¹⁸⁰ They also showed weak support for the Chaparral, recommending only appropriation of the funds requested

by the Army (\$26.8 million), some \$16 million less than the House Armed Services Committee had authorized (the Senate Armed Services Committee had authorized the amount requested, the House Armed Services Committee had added another \$16 million to speed up development of a limited all-weather capability; the conference committee had not yet completed its work--it would eventually support the House's addition). In its discussion of Roland, however, the House Appropriations Committee noted that its Roland recommendation was contingent upon resolution of the authorization issue between the House and Senate and upon certification by the Secretary of Defense that "the Roland Missile System had been adequately evaluated, that it would meet the system performance specifications enumerated in the Required Operational Capability document and that it was ready to enter production."¹⁸¹

The Secretary of Defense had decided earlier, on June 13, 1979 to accept the recommendation of the ASARC/DSARC to enter production, but made the obligation of any production and procurement funds contingent on the outcome of the FY 1980 authorization issue. This meant that the \$165 million appropriated the year before (FY 1979) for 75 missiles and three fire units was also contingent on the FY 1980 authorization issue, even though that money could probably be legally spent upon the required certification by the Secretary of Defense (which he was now prepared to make) regardless of the outcome of the FY 1980 authorization battle (the House termination).

His certification was provided after the termination issue was resolved.

The Senate Appropriations Committee spent very little time on air defense systems for FY 1980, perfunctorily providing written questions to witnesses to submit answers for the record. Senator Stennis's questions focused on criticism by the GAO that the Roland was not ready for production and that it did not enhance NATO standardization. The Army addressed each at length, denying the GAO's allegations.¹⁸² In its report of November 1, 1979, issued after the House/Senate Conference had resolved the Roland conflict and authorized the full \$308.2 million for Roland and both Houses had accepted the report,¹⁸³ the Senate Appropriations Committee recommended full funding for the Roland and the full amount authorized for Chaparral (\$42.8 million which included the \$16 million over that the Army requested).¹⁸⁴

In the Appropriations Conference, Roland was not an issue; funding for Chaparral was cut back the extra \$16 million which the House Armed Services Committee had added (to \$26.8 million), to make the figure consistent with the Army request and consistent with the decision to fund the Roland.¹⁸⁵

In late 1979, the Roland program received yet another setback. Although not fatal, it was one which significantly deflated the program. Although all of the evidence is not available yet, it appears that this attempt at standardization, albeit in some respects

symbolic, nevertheless one which was marked by a departure from the traditional quid-pro-quo package deals, finally fell victim to exactly such a traditional package, one with which all actors, Congress, industry and DOD, were much more comfortable.

The press, in late 1979, reported negotiations between the United States and Britain regarding a United States buy of the Rapier missile to be used to defend United States air bases in Britain. On August 2, 1979 Secretary Brown signed a memorandum to that effect: (a) ordering the USAF to request money in FY 1981 to buy 28 Rapier units (at an estimated cost of \$282 million over five years), and (b) ordering the Army to reduce its buy of Roland to 95 fire units.¹⁸⁶ Ironically, Rapier was the system Dr. Perry, in testimony before the Senate Armed Services Committee that same year, had called:

. . . a system we would not consider buying. Under no conditions would I or the Army recommend procuring the present Rapier system¹⁸⁷

Brown's decision is, on the surface, puzzling given the history of the Roland and other standardization battles. The Rapier could only promise more of the same. While it was a significantly different approach to standardization; i.e., involving a direct purchase which avoided the problems Roland encountered with technology transfer, etc., it was susceptible to even more volatile domestic economic opposition due to the loss of United States jobs, etc. That this was not to be the case became

clear several months later when the true nature of the "deal" emerged. The Rapier purchase was to be part of an arms trade with Britain. In exchange for United States procurement of Rapier (now estimated to involve some \$300 million over 20 years) the British were to buy Trident missiles to install on five new submarines (at a cost of some \$2.5 billion in purchases from ~~the~~ United States¹⁸⁸ and to allow the United States to install ground-launched cruise missiles (GLCMs) at bases in the United Kingdom.¹⁸⁹

Thus the issue was not standardization, but rather a traditional arms trade involving a package of quid-pro-quos. While domestic opposition would not be stilled totally, the quid-pro-quos involved would satisfy Congress, thereby eliminating or softening the most serious center of opposition. This deal is an excellent example of the low-politics with which Congress is most comfortable, while it avoids almost totally the high-politics involved in single-program standardization projects such as the Roland with which there are no clear benefits in both directions within a single package.

That this is the case is evidenced by the ease with which the deal was approved by Congress. The House Armed Services Committee approved \$100 million for initial Rapier procurement and the Senate \$50 million. In conference, \$90 million was authorized.¹⁹⁰ The House Appropriations Committee appropriated \$50 million and the Senate \$90 million. In conference, \$90 million was appropriated.¹⁹¹

Simultaneously the Roland program was cut back as requested by Brown with virtually no objections. The total Roland program was now estimated to cost \$1.5 billion.¹⁹² And the Chaparral was revitalized (at the initiative of the House) by \$41 million.¹⁹³ The House Armed Services Committee noted an Army decision not to deploy Roland at the Division level due its high costs and because of the improvements which had been made to the Chaparral (at House Armed Services Committee insistence over the years!).¹⁹⁴

Thus, one year after the Roland appeared to have weathered its challenges, the system had fallen from preeminence in the Army's air defense plans to probably a permanent secondary role. The House Armed Services Committee had been partially successful in its battle to kill the Roland program. Further, the House Armed Services Committee had successfully rejuvenated the Chaparral, a United States system, as had been its goal throughout the period. Procurement of the Rapier was not seen as an issue due to the trade-off it provided in selling the expensive Trident missiles to Britain, a trade that clearly favored the United States' economy.

Summary

An objective evaluation of Roland is complicated by its complexity the size of the program, its costs, the performance of the system, the problems in transferring technology, etc. All of these areas, and the simultaneous controversies which developed in each, make the Roland one of the more complex development

programs undertaken. As a result of this complexity, supporters and opponents of the system were often able to disguise their true motivations behind a variety of screens.

One primary issue in the program has been that of cost, certainly a valid criteria by which to judge any system. A second important issue has been that of technical performance, again a valid criteria by which to judge the program. Intermixed with these two issues (and often below the surface) have been questions of conflict of interest on the part of several key participants in the decision to select Roland over the other competitors, support for Roland based on the political, military and economic goal of greater standardization of weapon systems in NATO ("high politics"), and finally, opposition to Roland for purely domestic political considerations ("low politics"). Further complicating the picture is the fact that, as development progressed and the Roland became more of an American system, the objectives of some of the actors shifted from opposition to support of the system (e.g., some elements of the Army for which vested interests developed and also elements in Hughes and Boeing who came to see the system as "theirs" eventually and not "European"). Unfortunately, this was often after their initial opposition had created all but insurmountable problems.

Early in the selection process, no serious centers of opposition to Roland existed. The Congress initially sought to

assure only that competition was open to all interested bidders. As noted earlier, only one United States designed system entered the competition and there was general agreement that the three foreign competitors were much further advanced. The Army, in general, was seeking to buy the best system it could find, and Roland appeared to be it. Further, some saw the purchase of Roland as a sign to the Europeans that we were serious about opening the two-way street. Some of these saw Roland as a political concession to the Europeans while others assumed that real progress on standardizing NATO weapons systems had been made. In addition, personal motivations abounded, from the DDR&E level to Congress. In general those most directly affected by the decision, the Army, Hughes and Boeing, saw the awarding of a contract for Roland (in January of 1975) as business as usual; that the system was of a non-national design only meant different problems--it was not seen in any broader context. Hence, the immediate Americanization of the program.¹⁹⁵ No direction was provided to the Army or to its contractors stipulating that the system had to meet any level of standardization or interoperability with the European system. There is also evidence that in the early stages of the program, there was explicit DOD authority to Americanize the system.¹⁹⁶

Hence, in the initial stages of the program, no one was watching what the Army or the contractors were doing. And they were doing just as they had in the past; applying their know-how,

tempered by a "we can do anything the Europeans can do and better" attitude.

Not until October of 1975, almost a year after the contract was awarded, was a Memorandum of Understanding signed between the United States, France and Germany which required that the three countries seek an optimum level of standardization to include as a minimum that each system be capable of firing the other's missile.¹⁹⁷ And not until June of 1977, almost two years later, did Congress set minimum levels of interchangeability which the program would be required to meet.¹⁹⁸ Ironically, even this move by the House (on its surface, pro-standardization) can be interpreted as an attempt by opponents to further hurt the system. By this time it was clear that, having moved initially away from standardization because of Americanization of the system, moving back to interchangeability would boost the costs. This was especially true since the Army had made it clear several times that they considered total or near total United States production to be essential; Congress was not about to try to force them away from this position towards off shore procurement. Hence, interchangeability meant building to European specifications; the parts might not be identical (i.e., not logistically standard and thus probably incapable of being repaired in the field), but they would be interchangeable. Whether opponents in the House foresaw this or not, the potential for impairment of the performance of the system due to this approach was high. It is likely that many

of the problems experienced by the system can be traced to this requirement.

The system became a political football in late 1975 when the contradictions inherent in it began to mature. The request by Hughes for an additional \$40 million (in early 1976 for FY 1977) focused attention on the program and led to a total restructuring of the program in September of 1976.¹⁹⁹ Hughes blamed the cost overruns largely on unanticipated difficulties in translating technical documents. However, it quickly became clear that the \$40 million was only the tip of the iceberg. Cost estimates for R&D plus procurement had risen from \$1.3 billion in January of 1975 to \$1.8 billion in December of 1976.²⁰⁰ Research and development estimates alone rose from \$226.6 million in January of 1975 to \$265.0 million in December of 1976 and procurement from \$1.123 billion to \$1.570 billion.²⁰¹ These estimates contrasted even more with the initial estimates in 1974 that R&D costs for a SHORAD system would be \$100 million to \$140 million and procurement costs from \$550 to \$610 million.²⁰²

The restructuring of the program in late 1976 included modifications to the test program, requiring Hughes to cut back its independent test program in favor of more cooperative testing with the Europeans to include purchases of European test equipment, put stricter limits on Americanization of the system with Hughes required to coordinate any changes with high levels of the Army and

added provisions requiring modification of the licensing agreement to allow second source procurement in the United States and to clarify third country sales.²⁰³ The original licensing agreement between Hughes, Boeing and Euromissile was signed on November 9, 1973. Since then the Army has insisted on amendments to the original agreement seven times to clarify ambiguities in the original and subsequent agreements (or has been forced by DOD or Congress to make such changes).²⁰⁴

From this point on, the lines of support/opposition largely firmed up. The House Armed Services Committee, with House support, consistently opposed continuation of Roland. Their public rationale was that the system was becoming too expensive and further was not meeting performance requirements. However, as noted earlier, explicit and implicit requirements imposed by the Congress (initiated in the House) helped create these cost overruns and the technical problems. The House Armed Services Committee clearly preferred a United States system as its consistent support of the Chaparral demonstrates and probably would have resisted Roland regardless of the technical and cost performance.²⁰⁵

The Senate Armed Services Committee, on the other hand, evidenced strong support for Roland, almost exclusively for "high political" reasons. They failed to seriously challenge the program until it was unavoidable in 1979 and then once again reaffirmed their support for it; this time explicitly for high political

reasons.

DOD supported Roland from the beginning, consistently defending it before the House Armed Services Committee. However, the motivation early on of one element of DOD, DDR&E, was of a questionable nature. The departure of a key actor in the Roland program, Dr. Malcolm Currie, Director of DDR&E, to return to a post with the United States contractor for Roland (Hughes) could raise questions as to his impartiality.²⁰⁶ Support for Roland within DDR&E dropped visibly with his departure, as noted above.

The Army Secretariat and Staff level also strongly and consistently supported Roland. The role of Dr. LaBerge was noted earlier. Incidentally, as Dr. Pierre pointed out, LaBerge was not a regular member of the ASARC. He did, however, attend the ASARC decision meeting on Roland.²⁰⁷ At mid-levels of the Army, however, the Roland was viewed less favorably. It was from here (the Air Defense School and TRADOC) that the embarrassing cost-efficiency studies emerged and where the recommendation against Roland was cast in a rather inflammatory context: "That barring overriding national and international considerations Roland should not be procured at this time."²⁰⁸ Through this medium, TRADOC sent a clear message to the House Armed Services Committee that they opposed the Roland. While they clearly opposed Roland, it is further illuminating to note that the alternatives they did suggest were all United States systems--the Chaparral and the Hawk.²⁰⁹

TRADOC and the House Armed Services Committee were both looking almost exclusively at United States systems in spite of the fact that this was one area where European technology was far ahead of the United States.

At lower levels in the Army, the debate was academic--they wanted a system as soon as possible, and would take whichever the Army could deliver quickest.²¹⁰

The position of industry is ambivalent. By pushing the Americanization of Roland they were responsible for many of Roland's problems. Although Hughes and Boeing probably were not deliberately trying to sabotage the system in the sense of making this one so expensive it would never be attempted again²¹¹ they certainly were not personally adverse to such an outcome. In the early stages they saw licensing and Americanization of Roland as business as usual, a situation which satisfied them. They clearly were not happy with the modified program (being forced to share the testing with the Europeans, providing for second source procurement in the United States, providing a specified level of interchangeability, etc.) and as a result probably did not want to go through a similar program again. Yet, with so much at stake now, Boeing and Hughes are actually trying to make Roland work.²¹²

A very nice summary of the positions of various actors was provided by Mr. Edward R. Jayne, then Deputy Director of OMB for National Security and International Affairs. He noted the opponents

had differing motivations. Congress (the Buy American factions) felt that no foreign system would be good. As he noted, several centers of opposition to Roland existed within Congress based on that premise. On the other hand, OMB and GAO felt it was just not a good system; technically it had too many problems. On the other side, proponents, he felt, saw it as a symbolic issue and were blind to its problems. They, he felt, picked a poor system on which to "hang their hat." Further, he noted, as I have argued, that many of the technical/cost problems were, ironically, of our making due to modifications.²¹³

In summary, Roland will almost certainly be produced and deployed, although in fewer numbers due to the Rapier buy. It is, however, an unfortunate choice upon which to have built a test case for United States willingness to cooperate with Europe. The controversy surrounding Roland, although in part self-inflicted (cost and technical problems resulting from opposition to offshore procurement--the Buy American Act--and the not-invented-here syndrome or Americanization--by June of 1979 costs had risen from the January 1975 estimate of \$1.3 billion to \$2.4 billion and the GAO estimated they would rise even more)²¹⁴ will make future licensing and coproduction programs difficult, if not impossible, to get through Congress. In fairness to Roland, it faced hurdles a purely United States system would never have confronted and was forced to meet standards higher than a similar United States system

would have been held up to. As a result, extensive high political involvement was necessary to get Roland approved; even more will be necessary in the future for similar systems. In the end, the debate over Roland was elevated to a symbolic level (of necessity), and as a result, it was impossible for opponents to override the high political implications. In the future, domestic opposition will prevent similar programs from developing to the point where they can be elevated into high politics; i.e., they will be quickly terminated before they gain enough visibility for high politics to influence the decision.²¹⁵

Footnotes

¹ Interview with staffers at the General Accounting Office, Washington, D.C., September 1977.

² U.S., Congress, Senate, Committee on Armed Services, Fiscal Year 1975 Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve and Civilian Personnel Strengths, Hearings before the Committee on Armed Services, United States Senate on S.3000, 93rd Cong., 2nd Sess., part 9, May 29, 1974, pp. 5024-5025; See also U.S., Congress, Senate, Committee on Armed Services, Authorizing Appropriations for Fiscal Year 1974 for Military Procurement, Research and Development, Construction Authorization for The Safeguard ABM, and Active Duty and Selected Reserve Strength, and for Other Purposes, Report to accompany H.R. 9286 (Senate Report 93-385), 93rd Cong., 1st Sess., September 6, 1973, pp. 98-99.

³ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year, part 9, May 29, 1974, pp. 5024-5025.

⁴ Ibid.

⁵ Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1974 (Senate Report 93-385), September 6, 1973, p. 99.

⁶ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1975, part 9, May 29, 1974, pp. 5024-5027.

⁷ U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Authorization for Appropriations for Fiscal Year 1975, Hearings on Military Posture and H.R. 12564 before the Committee on Armed Services, House of Representatives, 93rd Cong., 2nd Sess., part 4, March 20, 1974, p. 3854.

⁸ Ibid., p. 3855.

⁹ Ibid.

¹⁰ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1975, part 3, February 26, 1974, p. 871.

¹¹ U.S., Congress, Senate, Congressional Record, 93rd Cong., 2nd Sess., February 5, 1974, 120:2139.

¹² Fine, 1974 European Trip Report, reprinted in United States, Congress, Senate, Congressional Record, 93rd Cong., 2nd Sess., February 5, 1974, 120:2139-2140.

¹³ Department of Defense Response to Fine's 1973 Trip Report, reprinted in U.S., Congress, Senate, Congressional Record, 93rd Cong., 2nd Sess., May 30, 1974, 120:17009.

¹⁴ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1975, part 3, February 26, 1974, p. 872.

¹⁵ Ibid.

¹⁶ Ibid., part 5, March 7, 1974, p. 2219.

¹⁷ U.S., Congress, Senate, Congressional Record, 94th Cong., 1st Sess., December 18, 1975, 121:S22768.

¹⁸ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1975, part 9, May 29, 1974, p. 5030.

¹⁹ U.S., Congress, House of Representatives, Committee on Armed Services, Authorizing Appropriations, Fiscal Year 1975, for Military Procurement; Research and Development; Strengths for Active-Duty Military Components, Civilian Personnel of the Defense Establishment and Reserve Components; Military Training Student Loads, and for Other Purposes, Report to accompany H.R. 14592 (House Report 93-1035), 93rd Cong., 2nd Sess., May 10, 1974, pp. 43-44.

²⁰ Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1975 (Senate Report 93-884), May 29, 1974, pp. 32-33.

²¹ Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1975 (House Report 93-1212), July 24, 1974, p. 30.

²² Ibid.

²³ Ibid., p. 51.

²⁴ U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriations for 1975, Hearings before a subcommittee of the Committee on Appropriations, House of Representatives on H.R. 16243, 93rd Cong., 2nd Sess., part 4, April 25, 1974, pp. 1206-1207.

²⁵ U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriation Bill, 1975, Report to accompany H.R. 16243 (Senate Report 93-1104), 93rd Cong., 2nd Sess., August 16, 1974, p. 167.

²⁶ U.S., Congress, House of Representatives, Committee of Conference, Making Appropriations for the Department of Defense, Fiscal Year 1975, Conference Report to accompany H.R. 16243 (House Report 93-1363), 93rd Cong., 2nd Sess., September 18, 1974, pp. 25-26.

²⁷ "U.S. Army Picks Roland for Air Defense Role," Aviation Week and Space Technology 102 (January 13, 1975): 17.

²⁸ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 1, February 5, 1975, p. 112.

²⁹ House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 4, March 7, 1975, pp. 4127-4128.

³⁰ Ibid., part 4, March 11, 1975, pp. 4266-4267.

³¹Ibid., p. 4270.

³²Ibid.

³³Ibid., pp. 4271-4272.

³⁴U.S., Congress, House of Representatives, Committee on Armed Services, Authorizing Appropriations, Fiscal Year 1976 and the Period Beginning July 1, 1976, and Ending September 30, 1976, for Military Procurement; Research and Development; Strengths of the Defense Establishment; Military Training Student Loads; and for Other Purposes, Report to accompany H.R. 6674 (House Report 94-199), 94th Cong., 1st Sess., May 10, 1975, p. 62.

³⁵Ibid.

³⁶Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 1, February 5, 1975, pp. 111-112.

³⁷Letter from Senator Thomas J. McIntyre (D-NH), Chairman of the Subcommittee on Research and Development, Senate Armed Services Committee, to Secretary of Defense James R. Schlesinger, dated January 28, 1975, reprinted in Ibid., part 4, February 27, 1975, pp. 1852-1854.

³⁸Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 4, February 27, 1975, pp. 1854-1855.

³⁹House Appropriations Committee, Hearings on Department of Defense Appropriations for Fiscal Year 1976, part 1, February 26, 1975, p. 377.

⁴⁰Letter from Dr. Malcolm R. Currie, DDR&E, to Senator Thomas J. McIntyre, dated March 6, 1975, reprinted in Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 6, March 7, 1975, pp. 2857-2859.

⁴¹Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977, part 6, March 17, 1975, pp. 3130-3131. In the Army's mind, this precluded the problem of "Americanization;" see p. 3151.

⁴²Ibid., p. 3132.

⁴³Ibid., p. 3154.

⁴⁴Ibid., part 7, April 10, 1975, pp. 4001-4002.

⁴⁵Senate Armed Services Committee, Report on Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977 (Senate Report 94-146), May 19, 1976, p. 75.

⁴⁶Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1976 and 1977 (House Report 94-413), July 26, 1975.

⁴⁷House Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1976 (House Report 94-517), September 25, 1975, pp. 273-274.

⁴⁸Ibid.

⁴⁹Senate Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1976, part 5, p. 1214; and Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1976 (Senate Report 94-446), November 6, 1975, p. 249.

⁵⁰Conference Report on the Department of Defense Appropriations for Fiscal Year 1976 (House Report 94-710), December 10, 1975, as reprinted in U.S., Congress, House of Representatives, Congressional Record, 94th Cong., 1st Sess., December 10, 1975, 121:112284.

⁵¹"Adaption Problems Delay Roland," Aviation Week and Space Technology 103 (December 1, 1975): 22.

⁵² Message, USMISSION/NATO to SECDEF, dated November 14, 1975; message was provided by the Office of the Assistant Secretary of Defense for Public Affairs. Actually \$40 million was finally requested. See Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 2, February 3, 1976, pp. 625-626.

⁵³ Benjamin F. Schemmer, "Roland Missile Makes Headlines: Some Good, Some Not So Good, Some Still Not Made Public," Armed Forces Journal, International 113 (December 1975): 11.

⁵⁴ John Marriott, "Roland II: Has America Bought the Wrong Weapon?" NATO's 15 Nations 20 (December 1975-January 1976): 79.

⁵⁵ Schemmer, "Roland Missile Makes Headlines," p. 11.

⁵⁶ House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 1, February 4, 1976, pp. 1001-1002.

⁵⁷ Ibid., part 2, February 19, 1976, pp. 511-512.

⁵⁸ Ibid., part 5, February 17, 1976, p. 23.

⁵⁹ Ibid., p. 25.

⁶⁰ Ibid.

⁶¹ Ibid., pp. 35-36.

⁶² Ibid., part 5, February 27, 1976, p. 1021; See also pp. 1028-1031.

⁶³ Ibid., pp. 1024-1025.

⁶⁴ Ibid., p. 1028.

⁶⁵ U.S., Congress, House of Representatives, Committee on Armed Services, Authorizing Appropriations, Fiscal Year 1977, for Military Procurement; Research and Development; Strengths for

Active-Duty Military Components, Reserve Components and Civilian Personnel of the Defense Establishment; Military Training Student Loads; and for Other Purposes, Report to accompany H.R. 12438 (House Report 94-967), 94th Cong., 2nd Sess., March 26, 1976, p. 69.

⁶⁶ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 2, February 3, 1976, pp. 625-626.

⁶⁷ The House, almost smugly (perhaps even gleefully, given its earlier reluctance to try adopting a European system) asked if it was wise to continue this futile effort. It is almost as if the House knew the overruns would occur and when they did, welcomed the opportunity to say "I told you so" and then to use this as the opportunity to apply severe restrictions to the program with the goal of killing it. The extreme position would be to argue, as some have done, that Hughes and the Army deliberately followed this path, with the implicit blessing of some in the House Armed Services Committee, with the intention of subverting the policy of standardization. This is, however, probably overstating the case.

⁶⁸ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 2, February 3, 1976, p. 743.

⁶⁹ Ibid., part 4, February 5, 1976, pp. 2437-2438.

⁷⁰ See Ibid., part 6, February 25, 1976, p. 3217 for assurances by Dr. Edward A. Miller, Assistant Secretary of the Army for Research, Development and Acquisition that the top levels of the Army, DDR&E, Hughes and Boeing were supportive of the program.

⁷¹ Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1977 (Senate Report 94-878), May 14, 1976, p. 84.

⁷² U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., May 26, 1976, 122:S8041.

⁷³ Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1977 (House Report 94-1305), June 25, 1976.

⁷⁴ U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriation Bill, 1977, Report to accompany H.R. 14262 (House Report 94-1231), 94th Cong., 2nd Sess., June 8, 1976, p. 170; and U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriation Bill, 1977, Report to accompany H.R. 14262 (Senate Report 94-1046), 94th Cong., 2nd Sess., July 22, 1976, p. 235.

⁷⁵ House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1977, part 2, February 17, 1976, p. 399.

⁷⁶ "Clements Orders Review of Roland," Defense/Space Daily, October 7, 1976, p. 8; and "Army Grapples with Rising Roland Costs," Aviation Week and Space Technology 105 (October 18, 1976): 16.

⁷⁷ U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Authorization for Appropriations for Fiscal Year 1978, Hearings on Military Posture and H.R. 5068 (H.R. 5970) before the Committee on Armed Services, House of Representatives, 95th Cong., 1st Sess., part 3/1, February 3, 1977, p. 71.

⁷⁸ Ibid., p. 98.

⁷⁹ Ibid., part 2, February 3, 1977, p. 148.

⁸⁰ Ibid.

⁸¹ Ibid., part 3/1, February 4, 1977, pp. 225-226.

⁸² Ibid., p. 229.

⁸³ Ibid., p. 227.

⁸⁴ Phone interview with staff members, Defense Audit Service, March 17, 1980.

⁸⁵ House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1978, part 3/1, February 4, 1977, p. 228.

⁸⁶Ibid., p. 237.

⁸⁷Ibid., p. 226; Also, interviews with GAO staff members, September 1977.

⁸⁸Gregory Copley, "The Damaging Aspects of Poor Defense Contracting," Defense and Foreign Affairs Digest 5 (May 1977).

⁸⁹House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1978, part 3/2, February 24, 1976, p. 1526.

⁹⁰Ibid., pp. 1525-1526.

⁹¹House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1978 (House Report 95-194), April 7, 1977, pp. 76-77.

⁹²U.S., Congress, Senate, Committee on Armed Services, Fiscal Year 1978 Authorization for Military Procurement, Research and Development, and Active-Duty, Selected Reserve and Civilian Personnel Strengths, Hearings before the Committee on Armed Services, United States Senate on S.1210, 95th Cong., 1st Sess., part 8, March 2, 1977, pp. 5373-5374.

⁹³House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1978 (House Report 95-194), April 7, 1977, p. 42.

⁹⁴Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1978, part 8, March 2, 1977, pp. 5352-5353.

⁹⁵Ibid., p. 5353.

⁹⁶U.S., Congress, Senate, Committee on Armed Services, Authorizing Appropriations for Fiscal Year 1978 for Military Procurement, Research and Development, Active Duty, Selected Reserve, and Civilian Personnel Strengths, Civil Defense, and for Other Purposes. Report to accompany H.R. 5970 (Senate Report 95-129), 95th Cong., 1st Sess., May 10, 1977, pp. 40, 97.

⁹⁷ Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1978 (House Report 95-446), June 20, 1977, p. 37.

⁹⁸ Ibid., p. 38.

⁹⁹ Ibid., p. 37.

¹⁰⁰ Letter, from Secretary of the Army, Clifford L. Alexander, Jr. to Senator John C. Stennis, Chairman, Senate Armed Services Committee, dated August 19, 1977.

¹⁰¹ U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriations for 1978, Hearings before a subcommittee of the Committee on Appropriations, House of Representatives on H.R. 7933, 95th Cong., 1st Sess., part 3, March 16, 1977, p. 575.

¹⁰² Ibid., p. 576.

¹⁰³ The frankness in the last two statements of Parker is all the more interesting in that they were responses to prepared questions, hence were almost certainly staffed through the Department of Defense and probably the Army staff also.

¹⁰⁴ House Appropriations Committee, Report on Department of Defense Appropriations for Fiscal Year 1978 (House Report 95-451), June 21, 1977, pp. 215-216, 284.

¹⁰⁵ Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1978 (Senate Report 95-325), July 1, 1977, pp. 195-196, 255.

¹⁰⁶ House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1979, part 3/1, March 2, 1978, pp. 711-712.

¹⁰⁷ Testimony of Lt Gen Donald R. Keith, Deputy Chief of Staff of the Army for Research, Development and Acquisition, Ibid., pp. 712-713.

¹⁰⁸ Ibid., part 2, February 22, 1978, p. 135; Also U.S., Congress, House of Representatives, Committee on Armed Services, Department of Defense Appropriation Authorization Act, 1979, Report to accompany H.R. 10929 (House Report 95-1118), 95th Cong., 2nd Sess., May 6, 1978, pp. 46-47.

¹⁰⁹ House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (House Report 95-1118), May 6, 1978, pp. 74-75.

¹¹⁰ Ibid., pp. 47-48.

¹¹¹ House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1979, part 3/1, March 2, 1978, pp. 713, 715.

¹¹² House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (House Report 95-1118), May 6, 1978, pp. 47-48.

¹¹³ Ibid., p. 67. See also Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (Senate Report 95-826), May 15, 1978, p. 74.

¹¹⁴ House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (House Report 95-1118), May 6, 1978, p. 71.

¹¹⁵ House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1979, part 3/1, March 2, 1978, p. 715.

¹¹⁶ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1979, part 8, March 7, 1978, pp. 6039-6040.

¹¹⁷ Senate Armed Services Committee, Report to the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (Senate Report 95-826), May 15, 1978, p. 38.

¹¹⁸ Ibid., pp. 39, 42.

¹¹⁹Ibid., p. 78.

¹²⁰U.S., Congress, Senate, Congressional Record, 95th Cong., 2nd Sess., July 10, 1978, 124:SI0271.

¹²¹Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (Senate Report 95-826), May 15, 1978, p. 74; and Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (House Report 95-1402), July 31, 1978, pp. 30-31.

¹²²Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (House Report 95-1402), July 31, 1978, p. 23.

¹²³Ibid.

¹²⁴Ibid., pp. 23, 30.

¹²⁵House Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (House Report 95-1398), July 27, 1978, pp. 250-251.

¹²⁶Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (Senate Report 95-1264), October 2, 1978, pp. 116-117.

¹²⁷Conference Report on the Department of Defense Appropriations for Fiscal Year 1979 (House Report 95-1764), October 11, 1978, p. 23.

¹²⁸House Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (House Report 95-1398), July 27, 1978, p. 329.

¹²⁹Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (Senate Report 95-1264), October 2, 1978, p. 177.

¹³⁰Conference Report on the Department of Defense Appropriations for Fiscal Year 1979 (House Report 95-1764), October 11, 1978, p. 31.

¹³¹House Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (House Report 95-1398), July 27, 1978, p. 335 and Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (Senate Report 95-1264), October 2, 1978, p. 178.

¹³²Conference Report on the Department of Defense Appropriations for Fiscal Year 1979 (House Report 95-1764), October 11, 1978, p. 31.

¹³³U.S., Congress, House, Congressional Record, 95th Cong., 2nd Sess., May 24, 1978, 124:H4566.

¹³⁴U.S., Congress, Senate, Congressional Record, 95th Cong., 2nd Sess., July 11, 1978, 124:S10430.

¹³⁵House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 2, February 23, 1979, pp. 177-179 and March 28, 1979, p. 541.

¹³⁶Ibid., part 2, February 23, 1979, pp. 177-180 and March 28, 1979, p. 544.

¹³⁷Ibid., part 2, March 28, 1979, p. 542.

¹³⁸Ibid., part 3/1, March 5, 1979, p. 785.

¹³⁹See especially the statement of the new project manager, Brig Gen Joe Lax, Ibid., part 2, March 28, 1979, pp. 563-586.

¹⁴⁰Ibid., part 2, March 28, 1979, pp. 571, 581.

¹⁴¹Ibid., p. 583.

¹⁴²See Dr. Perry's comments, Ibid., part 3/1, March 2, 1979, p. 702 and Dr. Pierre's comments, Ibid., part 3/2, pp. 2152-2153.

¹⁴³See Dr. Pierre's testimony, Ibid., part 3/1, March 5, 1979, pp. 785-786.

¹⁴⁴ Ibid., part 3/2, March 26, 1979, p. 2153.

¹⁴⁵ Ibid., part 3/2, April 10, 1979, pp. 3002-2003.

¹⁴⁶ See Dr. Pierre's remarks, Ibid., part 3/2, March 26, 1979, pp. 2154-2155; See also Dr. Perry's statement, Ibid., part 3/1, March 2, 1979, p. 702.

¹⁴⁷ Ibid., part 3/1, March 2, 1979, p. 702; See also Battista's comments, part 3/2, April 10, 1979, p. 3024 and Justice White's comments, part 2, March 28, 1979, p. 585.

¹⁴⁸ See, for example, Congressman Ichord's (D-MO) question in Ibid., part 3/2, March 27, 1979, pp. 2204-2206; and Mr. Battista in Ibid., part 3/2, April 10, 1979, p. 3026.

¹⁴⁹ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 3, May 10, 1979, p. 1386.

¹⁵⁰ House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1980 (House Report 96-166), May 15, 1979, pp. 42, 77, 87.

¹⁵¹ Ibid., pp. 43-44.

¹⁵² U.S., Congress, General Accounting Office, Evaluation of the Decision to Begin Production of the Roland Missile System, Report to the Congress by the Comptroller General of the United States, Report PSAD-79-100, August 17, 1979, pp. 13-14.

¹⁵³ Ibid., p. 14; It should be noted that the Army air defense studies were still ongoing and therefore in draft form.

¹⁵⁴ U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriations for 1980, Hearings before a subcommittee of the Committee on Appropriations, House of Representatives on H.R. 5359, 96th Cong., 1st Sess., part 6, May 1, 1979, p. 912.

¹⁵⁵ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 5, April 6, 1979, pp. 2570-2571.

¹⁵⁶ Ibid., pp. 2572-2573 and 2585-2586.

¹⁵⁷ Ibid., pp. 2583-2585.

¹⁵⁸ Ibid., pp. 2580-2582 and 2588-2589.

¹⁵⁹ Ibid., part 3, May 10, 1979, p. 1375.

¹⁶⁰ Ibid., p. 1390.

¹⁶¹ Ibid., p. 1379.

¹⁶² Ibid., pp. 1379-1380.

¹⁶³ Ibid., p. 1381.

¹⁶⁴ Ibid., pp. 1381-1382.

¹⁶⁵ Ibid., p. 1381.

¹⁶⁶ Ibid., pp. 1384-1385.

¹⁶⁷ Ibid., p. 1388.

¹⁶⁸ Ibid., p. 1392.

¹⁶⁹ Ibid., pp. 1393-1394.

¹⁷⁰ Ibid., p. 1395.

¹⁷¹ Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1980 (Senate Report 96-197), May 31, 1979, pp. 41, 75.

¹⁷²Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1980 (House Report 96-546), October 23, 1979, pp. 25, 33, 34.

¹⁷³U.S., Congress, House of Representatives, Congressional Record, 96th Cong., 1st Sess., September 12, 1979, 125:H7716.

¹⁷⁴Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1980 (House Report 96-546), October 23, 1979, p. 54.

¹⁷⁵House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1980, part 6, May 1, 1979, p. 891.

¹⁷⁶Ibid.

¹⁷⁷Walter B. LaBerge, "Chanson de Roland," NATO Review 25 (June 1977): 10-15.

¹⁷⁸Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 3, May 10, 1979, p. 1383.

¹⁷⁹House Appropriations Committee, Report on the Department of Defense Authorizations for Fiscal Year 1980 (House Report 96-450), September 20, 1979, pp. 284, 292.

¹⁸⁰Ibid., pp. 292, 295, 373.

¹⁸¹Ibid., p. 292.

¹⁸²U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriations for Fiscal Year 1980, Hearings before a subcommittee of the Committee on Appropriations, United States Senate on H.R. 5359, 96th Cong., 1st Sess., part 1, March 7, 1979, p. 835; part 4, February 21, 1979, pp. 252-256 and part 4, March 14, 1979, pp. 867-868.

¹⁸³U.S., Congress, Congressional Record, 96th Cong., 1st Sess., October 24, 1979, 125:S15080 and October 26, 1979, 125:H9791.

¹⁸⁴ Senate Appropriations Committee, Report on the Department of Defense Appropriations For Fiscal Year 1980 (Senate Report 96-393), November 1, 1979, pp. 122-124, 177, 182-183.

¹⁸⁵ Conference Report on the Department of Defense Appropriations for Fiscal Year 1980 (House Report 96-696), December 11, 1979, pp. 22, 32.

¹⁸⁶ "Rapier Buy, Roland Out?" Armed Forces Journal, International 117 (September 1979): 10.

¹⁸⁷ Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 3, May 19, 1979, p. 1389. The purchase of the Rapier by the Air Force touched off a roles and missions battle between the Air Force and the Army which was eventually resolved through an agreement with the British calling for them to man the United States sites. Air defense is a traditional Army role and they resisted Air Force involvement; the compromise satisfied the Army. See "Washington Roundup," Aviation Week and Space Technology 111 (October 22, 1979): 13 and "British Offer to Man USAF/UK Rapiers," Armed Forces Journal, International 117 (December 1979): 17.

¹⁸⁸ Henry S. Bradsher, "U.S. to Supply Trident I Missiles to Britain to Modernize N-Force," Washington Star, July 16, 1980, p. 9.

¹⁸⁹ See the following articles and letter for details on the deal: "Washington Roundup," Aviation Week and Space Technology 111 (November 5, 1979): 15; "Washington Roundup," Aviation Week and Space Technology 112 (March 31, 1980): 17; David A. Brown, "British Affirm Decision to Buy Trident SLBMs," Aviation Week and Space Technology 113 (July 21, 1980): 23-25; and letter from Secretary of Defense Harold Brown to the Honorable Francis Pym, British Secretary of State, dated July 14, 1980, obtained from the Assistant Secretary of Defense for Public Affairs.

¹⁹⁰ House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1981 (House Report 96-916), April 30, 1980, p. 57; U.S., Congress, Senate, Committee on Armed Services, Authorizing Appropriations for Fiscal Year 1981 for Military Procurement, Research and Development, Active Duty, Selected Reserve, and Civilian Personnel Strengths, Civil Defense, and for Other Purposes, Report to accompany H.R. 6974

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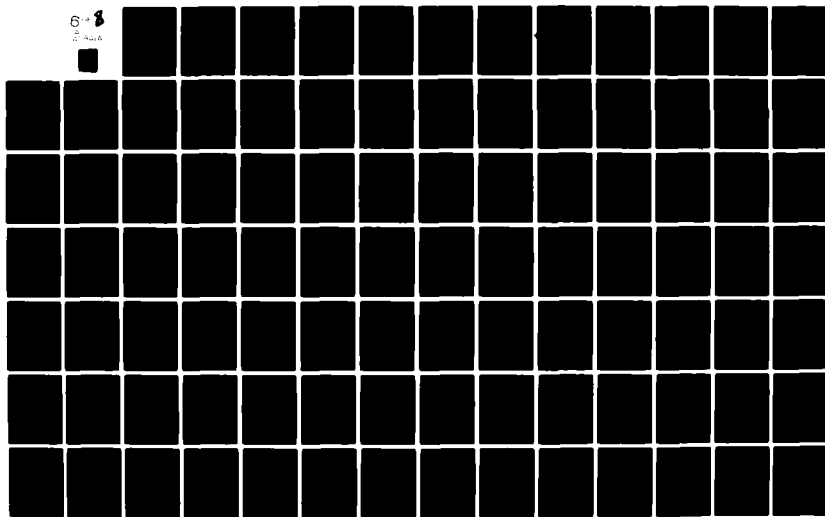
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¹⁹¹U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Authorization Bill, 1981, Report of the Committee on Appropriations to accompany H.R. 8105 (House Report 96-1317), 96th Cong., 2nd Sess., September 11, 1980, p. 276; U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriations Bill, 1981, Report to accompany H.R. 8105 (Senate Report 96-1020), 96th Cong., 2nd Sess., November 19, 1980, p. 163; U.S., Congress, House of Representatives, Committee of Conference, Making Appropriations for the Department of Defense for Fiscal Year 1981 and for Other Purposes, Conference Report to accompany H.R. 8105 (House Report 96-1528), 96th Cong., 2nd Sess., December 4, 1980, p. 29.

¹⁹²House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1981 (House Report 96-916), April 30, 1980, pp. 46-47.

¹⁹³*Ibid.*, p. 46; Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1981 (Senate Report 96-895), August 13, 1980, pp. 58, 67.

¹⁹⁴House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1981 (House Report 96-916), April 30, 1980, p. 46. The Army also shifted Roland to a low production rate for at least the next two years in order to allow time to validate " . . . changes intended to improve reliability and adapt the . . . system to United States manufacturing techniques." Benjamin M. Elson, "Army Limits Roland Production System," Aviation Week and Space Technology 112 (January 14, 1980): 66.

¹⁹⁵Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 3, May 10, 1979, pp. 1394-1395. See also Library of Congress, NATO Standardization: Political, Economic and Military Issues for Congress, pp. 22-23.

¹⁹⁶Interviews with students at the Industrial College of the Armed Forces, National Defense University, Ft. McNair, Washington, D.C., working the Roland issue, 1978. See also Daniel Malone, Roland: A Case For or Against NATO Standardization, pp. 38, 43, 52.

197 U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., March 23, 1978, 122:84016, for DOD's response to Hyman Fine's third European trip report. See also Malone, Roland, p. 52 where Malone notes that this MOU was the result of pressure from Senator McIntyre, Chairman of the Research and Development Subcommittee, Senate Armed Services Committee.

198 Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1978 (House Report 95-446), June 20, 1977, p. 38.

199 Interviews with staffers at the General Accounting Office, Washington, D.C., September 1977.

200 General Accounting Office, Evaluation of the Decision to Begin Production of the Roland Missile System, August 17, 1979, p. 7.

201 Ibid.

202 U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriations for Fiscal Year 1975, Hearings before a subcommittee of the Committee on Appropriations, United States Senate on H.R. 16243, 93rd Cong., 2nd Sess., part 2, April 4, 1974, p. 575 for the testimony of General John R. Deane, Chief of the Research and Development Office, United States Army.

203 House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 2, March 28, 1979, p. 564; House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 5, February 27, 1976, p. 951.

204 Telephone interview with Defense Audit Service (DAS) Staffers, October 31, 1976; DAS Working Paper, "Licensing Agreement, Roland Missile,"

205 John W. Finney, "U.S. Outlays Rising on Allied Missile," New York Times, October 3, 1976, p. 1, where Finney notes the personal interest on the part of members of the House Armed Services Committee to build an American developed missile.

²⁰⁶Gregory Copley, "The Damaging Aspects of Poor Defense Contracting," Defense and Foreign Affairs Digest 5 (May 1977).

²⁰⁷Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 3, May 10, 1979, p. 1383.

²⁰⁸Ibid., p. 1385 for General Koehler's testimony on results of the studies.

²⁰⁹Although one modification of the Chaparral would have used a British radar; General Accounting Office, Evaluation of the Decision to Begin Production of the Roland, August 17, 1979, p. 14.

²¹⁰Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1980, part 3, May 10, 1979, p. 1393.

²¹¹As one senior Senate staff member bluntly argued.

²¹²Copley, "The Damaging Aspects of Poor Defense Contracting," Defense and Foreign Affairs Digest 5 (May 1977).

²¹³Mr. Edward R. Jayne, Deputy Director of OMB for National Security and International Affairs, interview, United States Air Force Academy, October 1, 1979.

²¹⁴General Accounting Office, Evaluation of the Decision to Begin Production of the Roland, August 17, 1979, p. 7.

²¹⁵See the argument by Senator McIntyre where he argues that this will likely happen; he notes the opposition, especially in the House, to purchases of foreign systems and how the failures of Roland have been seized upon as ammunition against future foreign procurements. Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1978, part 8, March 16, 1977, p. 6040.

CHAPTER VIII

MAG-58 CASE STUDY*

Introduction

The purchase of the Belgian MAG-58 illustrates in a different light the uphill struggles which standardization faces. For, although the Belgian gun (which proponents of standardization argued would advance standardization of equipment in NATO) was purchased, it required the expenditure of significant political capital for a relatively small procurement (some \$30 million). Further, it is not clear that the purchase of the Belgian gun really enhanced the military capability of NATO; that is, that it standardized machine guns anymore than purchase of the competing American gun would have.

Background

Since 1959, United States Army tanks have carried the M219 coaxial machine gun. That gun, however, has never been considered reliable.¹ The Israelis were critical of it (based on their experiences during the October 1973 war) as were United States Army field commanders. In 1973, the Army began to look for a replacement for the M219.

* Two chronologies of events associated with the MAG-58 case can be found in Appendix 4 to aid the reader in following this study.

Field tests were conducted from November 1974 through February 1975 on three United States guns: an improved M219, the Maremont Corporation's M60(MOD), and the original M219. The Maremont Corporation was based in Chicago with its main plant in Saco, Maine. Five foreign guns were also tested but only in the laboratory, not in the field. The results indicated that the Maremont M60(MOD) was superior in the field to the other two United States guns (with a Mean Rounds Between Stoppage (MRBS) of 846 rounds, a Mean Rounds Between Failure (MRBF) of 1,531 rounds, and a serviceable life of over 75,000 rounds.²

At this point, the Army user and development commands were ready to purchase the M60. They, in fact, recommended at a briefing to Army headquarters officials on March 28, 1975, that: (a) M219 purchases be stopped; and (b) that the M60(MOD) be selected for tank use after minor corrections and retest of the gun were accomplished (to be completed by April, 1975).³ Briefed to headquarters officials at the same time, however, were the results of the laboratory tests of the five foreign-made machine guns (Belgian, British, German, French, and Canadian). The Belgian MAG-58 machine gun outperformed the other four so well that the Army Training and Doctrine Command (TRADOC) recommended to Army Headquarters at the same time that, should the retest of the M60E2 (the to-be-modified M60) fail to satisfy the Army's needs, consideration should be given to field testing the Belgian MAG-58.⁴

However, as a result of TRADOC's briefing on the MAG-58's performance, Army Headquarters officials decided that the MAG-58

be introduced immediately as a contender with the M60E2 for Army procurement, regardless of how well the modified M60E2 performed.⁵

While the decision of Army Headquarters officials seems valid and defensible on its own merits, several events occurring at the same time gave rise to allegations that the United States' gun (Maremont's M60E2) was being unfairly sacrificed to the interests of NATO standardization and, perhaps more to the point, to the United States' desire to sell the F-16 aircraft to NATO, and especially to the need to convince Belgium (the only holdout) to go along with the other three countries in the consortium (the Netherlands, Denmark, and Norway) and select the F-16 (see below).

The NATO Fighter Competition

The relationship between the F-16 and the MAG-58 is critical to this issue. At the same time that the Army was looking at machine guns, the United States Government was engaged in negotiations with four European countries (the Netherlands, Norway, Denmark, and Belgium) to purchase and coproduce the F-16. (The F-16 was selected by the United States as the winner of the United States light-weight fighter aircraft competition in January of 1975.) The United States' F-16, however, was only one of three aircraft the four countries were looking at; France and Sweden each had a candidate. Further, all four countries had agreed with NATO to purchase the same fighter. Three of the countries (Denmark, Norway, and Holland), however, had decided in early May to buy the F-16

but, as agreed earlier, only if Belgium came in.⁶ Thus, the United States was focusing on the Belgians. However, the Belgians were also under immense pressure from the French to purchase the French Mirage; they were thus caught in the middle.⁷

At this point, the machine gun decision which, up until mid-May, had been largely a technical and apolitical question (which gun was best), took on (with the United States' efforts to pressure the Belgians into joining the F-16 program) overtones of a political trade-off.⁸

Pressure from the United States on the Belgians was exerted, among other times, at two meetings: the first between President Gerald Ford and Belgian Prime Minister Leo Tindemans on May 29, 1975, in Brussels;⁹ and the second four days later, on June 2, 1975, between United States Defense Secretary James Schlesinger and Belgian Defense Minister Paul van den Boeynants during a surprise visit by the Belgian Defense Minister to Washington.¹⁰

Although reports are sketchy on the meeting between Ford and Tindemans, the main topic of discussion was reported to be the F-16.¹¹ Interestingly, Tindemans was scheduled to meet with President Valery Giscard d'Estaing the following day.¹² The meeting between Schlesinger and van den Boeynants, on the other hand, was more widely publicized. According to press reports, the United States offered, at that meeting, to purchase some 16,000 MAG-58s (worth some \$30 million) in exchange for a favorable decision on the F-16.¹³ This offer

incidentally was reportedly a counter to a French offer to make a similar, although not so large, purchase of a different Belgian rifle.¹⁴ Although the Department of Defense and most officials connected with the negotiations have denied that such an explicit promise was made,¹⁵ evidence is strong that in the reported agreement to "consider favorably"¹⁶ the MAG-58, both Ford and Schlesinger were making a strong implicit agreement with the Belgians.¹⁷ The agreement to consider favorably the MAG-58 was broadly reported in the United States' press (especially The New York Times, The Washington Post, and The Chicago Tribune) and in articles by several reporters relying on a number of sources. Mr. Frank Shrontz, Assistant Secretary of the Air Force for Installations and Logistics was quoted, in June, as stating that the United States had pledged ". . . favorable consideration" to purchase of the MAG-58.¹⁸ However, Lt General Howard Fish, Director of the Defense Security Assistance Agency, denied vehemently in September that the MAG-58 was ever to be given any more than "consideration." He specifically denied the "favorable" qualification.¹⁹ During the same hearings, Shrontz was also less forthcoming than he had been in June. He, however, did not deny the "favorable" phrase; rather, he evaded the whole issue.²⁰ However, it was clear that the Secretary of Defense, James Schlesinger, was very much in favor of buying the MAG-58 as the General Accounting Office pointed out in a report to the Senate Defense Appropriations Subcommittee in September of 1975.²¹

That the Belgians considered the MAG-58 to be part of a deal is clear in Defense Minister van den Boeynants' public defense of his government's decision. The promise to "consider favorable" the MAG-58 was listed by van den Boeynants along with several other concrete pledges which further sweetened the pot for the Belgians.²² Other sources in Belgium were also treating the pledge as a commitment. The New York Times quotes a representative of Fabrique Nationale (the manufacturer of the MAG-58) as saying, ". . . as far as we are concerned the whole deal is on track [and that the MAG-58 had become part of the F-16 package] in the last seven weeks."²³

While the question of what sort of deal, if any, actually was made will probably never be known, some insight into what probably occurred can be gained by looking at how the Ford Administration went about handling a similar issue. During a faculty seminar at the Air Force Academy on April 24, 1979, Mr. Ford was asked a question concerning Canadian purchase of a Long-Range Patrol Aircraft (LRPA) for NATO support. When Mr. Ford was asked if he pressured Mr. Trudeau into buying a United States aircraft (the Lockheed P3A), he responded that while he did discuss the issue and did encourage Trudeau to buy the LRPA for NATO support, he only touched upon what specific aircraft to buy, noting there would be advantages to buying a United States aircraft (i.e., that he would try to guarantee a 100% offset). As he noted, the specifics were "not my job;" it was up to the Secretary of Defense to negotiate at that level, as he then sent Defense Secretary Schlesinger to do.

I suspect the discussions between Mr. Ford and Mr. Tindemans were quite similar. At this level, discussion of NATO standardization (with Ford emphasizing that the other three countries had already decided in favor of the F-16) and levels of offset were probably the topic (as both were in the Canadian discussions). One can assume that the Belgians were arguing for a larger share of the action (see press reports after the fact for indications that the Belgians were putting heavy pressure on both the United States and France and that they did in fact come out better than the other three partners),²⁴ while the United States was pushing the standardization argument. That some agreement was reached by Ford and Tindemans is evidenced by the sudden and unexpected trip four days later by the Belgian Defense Secretary to Washington where he met with Mr. Schlesinger. It was at this meeting that, many argue, the MAG-58 was introduced into the offset package (the Army was already interested in testing the MAG-58; however, no commitments had been made at this point other than an intent to test it).

While I was unable to confirm this directly with Mr. Ford or to determine the extent of our commitment, the scenario is consistent with the Ford/Schlesinger method of operation in similar international negotiations and, given the sequence of events and the numerous sources tapped by the press, is logical.²⁵

The Belgian decision came on June 7, 1975. Although they did give in to pressure from the United States and their three

partners in deciding in favor of the F-16, they reduced their purchase from 116 aircraft to 102 with the difference being (symbolically) earmarked to a fund for joint European Research and Development. The announcement by Tindemans further reflected the pressure they were under: "The Government regrets that while replacing (the F-104) aircraft in four countries, we could not lay the foundation for a European aeronautical industry."²⁶ It is also interesting, however, to note that many in Europe were critical of France's attempts to sell the Mirage as a "European" aircraft, pointing out that it was a purely French aircraft and would do no more to aid a European-wide aeronautical industry than would the F-16.²⁷

MAG-58

If one accepts that the MAG-58 was part of an F-16 package, the other half of the "deal" was consummated nine months later when the Army announced, on March 29, 1976, that the MAG-58 was the winner of the machine gun competition and announced plans to begin negotiations for a contract to purchase the Belgian gun.²⁸

The preceding two events did not go unchallenged. The alleged MAG-58/F-16 "agreement" touched off a flurry of activity by supporters of the United States' gun as did the later actual procurement decision. The activities of these groups, headed by the Congressional delegation from Maine (where the Maremont gun would be manufactured) were focused at three levels. First, they challenged the selection process on a technical level, requesting the General Accounting

Office (GAO) to monitor the testing of the two guns. Second, they attempted to stall the procurement through political maneuvering in Congress, focusing primarily (but not exclusively) on amendments to the FY 1977 Defense Authorization and Appropriation Bills. And finally, they challenged the procurement in the courts.

GAO Monitoring of the
Selection Process

On August 7, 1975, Senator Edmund Muskie requested the General Accounting Office to oversee the complete testing of the two machine guns. Muskie's concerns were noted in a letter to the Comptroller General, Mr. Elmer B. Staats:

The matter involves the reported agreement by Secretary of Defense Schlesinger to give "favorable consideration" to the purchase by the United States Army of Belgian manufactured MAG-58 machine guns in exchange for Belgian purchase of the F-16 fighter plane. This agreement was reported in a Chicago Tribune article of June 15 and a New York Times article of June 23, 1975 (articles enclosed). These news reports were of immediate concern to me because of the prior understanding by Maremont Corporation officials that a modified version of the M60 machine gun manufactured in Saco, Maine, was the leading contender for use as a turret-mounted machine gun on the M60 tank.

Although various Defense Department officials have assured us that no commitment was made to purchase the Belgian weapon and equal consideration will be given to both the Belgian MAG-58 and the Maremont M60-E2 during planned testing (correspondence attached), I remain concerned about the apparent change in the competitive position of the two weapons concurrent with the F-16 negotiations.

Defense Department officials report that the decision as to which weapon will be procured for use on the M60 tank will be based on the results of side-by-side testing of the MAG-58 and the M60-E2 during November. Because critical national defense interests and the jobs of hundreds of workers in Saco, Maine, are at stake in this decision and because of conflicting information from within and without

the Department of Defense regarding developments in this armor machine gun program, I believe it would be appropriate for the General Accounting Office to review the armor machine gun program relative to the competition between the Maremont M60-E2 and the Belgian MAG-58 and to oversee the testing of these weapons systems. I am particularly concerned that (1) a report on all testing of each weapon system as of this date be made available; (2) that any relationship between the procurement of armor machine guns and the sale of F-16 aircraft to Belgium be fully reviewed; (3) that the criteria and design of the proposed tests for these weapons be reviewed and monitored as they are developed for consistency with earlier criteria and tests and real national security purposes; (4) that a determination be made whether the weapons used in testing are standard production line weapons or finely tuned prototypes; (5) that the actual testing of the weapons be directly and immediately monitored by GAO personnel with expertise in armaments, and that the final results and evaluations of all tests on these weapons be made available to Congress.²⁹

In its report of March 23, 1976, the GAO, as expected, was unable to find any evidence that the agreement to evaluate the MAG-58 was an explicit promise to buy the MAG-58: "GAO found nothing to indicate that a purchase commitment had been made, but the Belgians were assured the MAG-58 would be favorably considered if it proved itself in the tests."³⁰ The GAO notes also that regardless of the role of the F-16, it was ". . . appropriate for Army officials to have directed that the MAG-58 be fully tested in view of the potential it showed when tested under laboratory conditions."³¹ While this later point is valid, opponents felt it missed the point. They were arguing that a tradeoff had been agreed to which went beyond a simple agreement to test the MAG-58. To them, the testing was a sham; they argued that the Army had decided to buy the MAG-58 regardless of what the tests showed.³²

In evaluating the testing of the two guns, the GAO was generally supportive of the Army's procedures. The two primary criteria were reliability and endurance (or durability). The MAG-58 was clearly superior with respect to reliability (approximately 2.5 times as reliable as the M60E2 measured by duration and extent of stoppages) while the M60E2 was somewhat superior with respect to endurance (measured by number of rounds fired before a malfunction occurs which prevents the weapon from performing satisfactorily-- i.e., cracked receivers, etc.).³³

Both guns failed to meet certain minimum Army requirements which the Army in effect waived due to their own uncertainty as to whether the requirements were realistic.³⁴

Maremont, while generally satisfied with the tests, did express dissatisfaction with certain procedures which, they argued, if corrected would have vastly improved the performance of the M60E2. While the GAO agreed with Maremont, they noted that this would not have significantly changed their conclusions.

In summarizing the testing phase, the General Accounting Office noted that:

The tests established the MAG-58 as the more reliable [sic] weapon. Although the most serious malfunctions occurred when the MAG-58 rivets broke, the greater number of stoppages on the M60E2 would seem to pose a greater problem on the battlefield.³⁵

The question of cost and cost-effectiveness was, however, a more difficult issue. While the MAG-58 was judged more reliable,

the M60E2 was significantly less costly (\$707 per gun compared to the MAG-58 cost of \$1,517).³⁶ Three different approaches were used by the General Accounting Office to evaluate cost-effectiveness; a subjective comparison (requiring subjective weighting of factors such as cost, reliability and durability), an efficiency comparison (based on a composite index of potential enemy casualties), and a tank-value saved comparison (attempting to measure effect of inflicting enemy casualties on reduction of tank losses). As one might expect, depending on the approach used, widely varying conclusions were reached. Using the efficiency approach, the M60E2 was generally preferred while the tank-value saved approach pointed to the MAG-58 as preferable.³⁷

The GAO's conclusion was that

. . . the Army will have to make a judgment as to whether the MAG-58's superior performance in the test outweighs its higher cost as well as the international, economic, and other consequences which could result from the selection of one gun in preference to the other.³⁸

Finally, the General Accounting Office addressed the implications of the machine gun purchase for NATO standardization. Both guns were, they noted, capable of firing NATO standard 7.62 mm ammunition; therefore, neither had an advantage over the other in that respect. The question then was ". . . whether U.S. adoption of either gun would create substantive benefits in terms of NATO equipment standardization."³⁹ The General Accounting Office felt it would not:

Belgium, Holland, and Great Britain use the MAG-58, but West Germany and other NATO countries have different guns. The only practical standardization benefits of choosing the MAG-58 appear to be in the likelihood that parts could be interchanged among the countries if the need arose. The possibility that additional countries would eventually convert to MAG-58s is speculative.

There would be more benefits to the U.S. from a common weapon viewpoint, if the M60E2 were selected. According to Army sources, about 63 percent of the M60E2 parts are common with the M60 infantry machine gun used by the U.S. By choosing the M60E2, there would be less discord within the Army weapon inventory.⁴⁰

In summary, then, the General Accounting Office found no serious improprieties in testing and no explicit commitment on the part of the United States to purchase the system. Further, on the question of cost-effectiveness, their conclusions were ambiguous. Finally, they concluded that NATO standardization would not be affected by procurement of one gun over the other, noting, however, that while NATO standardization was generally unaffected in a macro-sense by selection of either system, standardization within the United States would be furthered by selection of the M60E2. In effect, GAO had given the Army a clean bill to move in either direction.

Needless to say, opponents were not satisfied with the GAO report, especially with the failure to find evidence of a tradeoff. Senator Hathaway (D-ME) would, over the next few years, continually return to the question of a tradeoff, finding several sources to support his contention but no hard evidence. For example, a Congressional Research Service issue brief dated June 6, 1976,

was especially blunt in its evaluation of the tradeoff:

After intensive negotiations with the Belgian government, which was under considerable pressure to purchase the French Mirage, Belgium agreed in June 1976 to buy the F-16, which the other three NATO countries had selected in the months following its selection by the U.S. Air Force. A last-minute DOD commitment to use Belgian MAG-58 machine guns instead of American M-60s on U.S. tanks in Europe, ostensibly in the interest of standardizing NATO equipment, was viewed as a special inducement to Belgium.⁴¹

Hathaway also criticized the General Accounting Office investigation as being merely a clearinghouse operation rather than a fact-finding investigation:

The GAO determination, therefore, was not one of a fact-finder which was determined to get at the truth, but rather as a clearinghouse for existing documentation, in which it found no conclusive evidence of a deal.

I would submit to my colleagues that the type of evidence it did find among existing documents was highly corroborative of a deal and that in international diplomatic circles, it was highly unlikely that the kind of "smoking gun," which GAO apparently required, was in existence.⁴²

While I find Hathaway's criticism telling (it is clear that many, if not all of the actors involved recognized that the tradeoff existed; although not explicitly documented anywhere, the understanding was clearly recognized in future decisions and negotiations), it is a dead-end road. All it provides is ammunition to use in other types of attacks which may be all Hathaway intended it for.

I had the opportunity to ask Joseph Luns, Secretary General of NATO, several questions concerning the tradeoff as well as standardization in general. He agreed that a tradeoff was involved

between the F-16 and MAG-58. Nevertheless, he saw it as one of the many areas in which NATO was better off with respect to standardization than ten years earlier.⁴³

Political Maneuvering in
Congress

The FY 1977 authorization request from the Department of Defense contained a request for \$15.1 million to procure 7,200 new machine guns. These were to be the first of some 18,000 guns to go on the XM-1 tank and other armored vehicles.⁴⁴ No specific weapon was identified during either the authorization or appropriation hearings since the procurement was pending the outcome of testing between the MAG-58 and the M60E2. During the hearings, the Department of the Army specifically denied that the MAG-58 had already been selected or that any deal had been made.⁴⁵ Later testimony did bring out, however, that the Army (by early March) considered the MAG-58 to be a better gun.⁴⁶

Questioning in the Senate Armed Services Committee, especially from Senator Nunn, also made it clear that the Army should be looking closely at standardization on the gun decision, further strengthening the position of the MAG-58:

Senator Nunn. I know you are going to get a lot of pressure on this and I know it's a tough decision on the Army. I want the Army to do what's in the best interests of the U.S. Army considering all the ramifications. I've no personal interest in it from a constituent point of view. If I did I would tell you. But I'm very concerned about standardization. I think this is being looked on by many different NATO countries as

a test. That doesn't mean we ought to buy the weapon, but it does mean that we ought not to have domestic political pressure as the basic criterion on which the decision is made

I might add that there are several different Senators that are concerned about this on both sides of the question, from the point of view of the domestic situation and also from the point of view of standardization. I would hope that with the keen interest and spotlight on it, that you would go to great lengths to make sure that your process is thorough and you do arrive at a decision independent of pressures, based on the best interests of the Army.⁴⁷

Although not a member of the Armed Services Committee, Senator Muskie submitted questions on the machine gun issue which put pressure on the Army from the other side:

. . . There has been some talk and some concern about the relationship of standardization to this procurement. This was the matter of some communications between the Maine Congressional Delegation and Army officials including Secretary Rumsfeld during his confirmation hearings. I had thought that standardization had been dismissed as a red herring for this procurement. I understand that the General Accounting Office is reviewing this issue and my understanding is that their conclusion is that standardization is relevant consideration here for several reasons, and I understand that General Cooksey and Secretary Augustine have assured Senator McIntyre that in their opinions standardization is not an important consideration. President Ford has given assurances that costs and effectiveness would be the only factors involved

. . . There has been a good deal of discussion between members of Congress and Secretary Clements and Secretary Augustine regarding the relationship of the Army's defined requirements for this procurement and the decision now is to what weight will be given to costs and other factors in this procurement. It is important, I believe, that we avoid unnecessary expenditures by purchasing the lowest priced weapons which meet the Army's defined needs. I would appreciate your assurances that this will be the policy followed by the Army in this procurement.⁴⁸

The Army's responses were evasive and noncommittal as might be expected, given the growing pressure from both sides:

General Feir. Technical and operational performance as well as logistical and cost facts have been evaluated and are being considered in reaching a final decision. It has been the Army's intention throughout this evaluation of both candidate weapons to select the best weapon for the American soldier considering all factors.⁴⁹

The divergent pressures on the Department of Defense and the Army were reported in the press and are noted above. Five members of the Senate Armed Services Committee were reported to have written Secretary of Defense Rumsfeld to support the Belgian gun, followed by a similar letter from the Maine delegation urging support of the M60E2. The Department's hesitancy to commit itself during this stage is thus understandable.⁵⁰

As Muskie noted above, the issue of the tradeoff was also raised during the confirmation hearings on the nomination of Donald Rumsfeld to be Secretary of Defense during November of 1975. Again, Muskie's questions were designed to raise and emphasize considerations of cost and domestic availability as prime considerations in the procurement and to downplay considerations of standardization. Rumsfeld, however, refused in his answer to rule out considerations of standardization:

Question. . . I would appreciate your personal assurance as we review your nomination as Secretary of Defense that you will give no special consideration to the Belgian competitor for this contract-Fabrique Nationale, and that the final decision on this procurement will be based on the merits and relative costs of the competing weapons including total life cycle costs, with due consideration to the importance of maintaining a domestic supplier of this system.

Answer. It is and will be the U.S. goal to obtain the best weapon for the American soldier. A decision on a contract for the M-60 tank machine gun will be made on the

basis of the merits of the respective weapons after extensive testing, their relative costs, and with a recognition of the broadly supported goal of increased standardization with NATO.⁵¹

In spite of the ongoing controversy, the Senate Armed Services Committee (on May 14, 1976) favorably reported the \$15.1 million for the purchase of 7,200 guns as had the House Armed Services Committee on March 26, 1976.⁵² Shortly after the hearings in both houses were largely complete, the Army decision to procure the MAG-58 was made (March 29, 1976). Hence, towards the end of the Authorization cycle, the \$15.1 million authorization for guns became an authorization to procure the MAG-58. If the \$15.1 million authorization survived the appropriation cycle, the Army would be clear to go with the MAG-58.

Attacks on the MAG-58, primarily from the Maine Congressional Delegation, thus began in earnest. The attacks were to focus on two primary targets. The first was policy language in two bills. One bill, the FY 1977 Authorization Bill, strongly endorsed standardization (sections 802 and 803 which were discussed in Chapter IV) and the other, the International Security Assistance and Arms Export Control Act of 1976, had important implications for the international arms trade. The second target was the funding appropriation for the machine gun in the FY 1977 Appropriations Bill.

Policy language: The FY 1977 Appropriation Authorization Bill.

A letter from Senators Muskie and Hathaway to their Senate colleagues set the tone for the extensive effort aimed at undercutting the Army

decision to purchase the Belgian MAG-58 over the Maine manufactured Maremont M60E2, which was to follow:

. . . We intend to offer amendments modifying Sections 802 and 803 of H.R. 12438, the so-called Military Procurement Authorization bill now pending on the Senate floor.

These sections and the accompanying report language relate to the issue of weapons standardization among the member nations of NATO and express a strong Congressional policy that the Secretary of Defense accelerate his efforts in this direction.

We support this policy in its general terms, but are concerned about its potential for abuse in "package deals" where the Secretary could enter into agreements with officials of member nations which bind him to purchase weapons systems or equipment from the member nations in exchange for these officials' commitments to purchase other weapons systems and equipment from United States manufacturers.

Under existing law these sorts of deals appear to be prohibited by the Buy American Act which ordinarily requires goods to be used by the Armed Forces to be acquired domestically unless there are overriding cost or quality considerations. Other procurement laws and regulations require competitive procurements. Section 802 would, however, amend existing law to grant to the Secretary a per se "public interest" waiver of the Buy American Act to acquire foreign goods if he could assert that such a purchase somehow fostered NATO "standardization."

Further, Section 803 encourages him to enter into "co-operative arrangements" with members of NATO and establishes as national policy the conclusion that NATO standardization is more important than "potential economic hardship to parties to such agreements" and that this policy is a "two way street." This proposed statutory language, coupled with the report language, would seem to mandate that the Secretary actively pursue such package deals, and ignore the policy expressed in the Buy American Act, and similarly ignore the adverse impact these sharing agreements inevitably will have on U.S. manufacturers who might otherwise have won the right to supply the goods via objective competition. The domestic manufacturers may be effectively frozen out for the greater good of NATO cooperation.

Unstated in the bill or the report is that the "potential economic hardship to parties to such agreements" would likely be most acutely felt by the United States, or that it may be fundamentally unfair to freeze out many of our manufacturers in the interest of giving other of our manufacturers a wider,

worldwide market.

In making these observations we do have a particular situation in mind. The Committee report on page 167 alludes to the decision by a number of NATO nations to purchase the U.S. made F-16 fighter aircraft and the Army's decision to purchase a Belgian made armored tank machine gun. No direct connection between the two decisions is mentioned in the report, but these actions are cited approvingly as instances where "standardization" has been fostered.

We believe there was a direct connection between the two decisions, that they were part of a "quid pro quo" agreement entered into about June of 1975 between then Secretary Schlesinger and Belgian officials in which the Secretary's representation that the Belgian gun would ultimately be chosen by the Army, rather than a competing American made gun, served as an inducement for Belgium's converse promise to buy the F-16 aircraft manufactured in the United States.

The American made gun, manufactured by Maremont Corporation, a Chicago based company with its principal factory in Saco, Maine, had prior to June of 1975 been recommended for purchase by the Army Armor Command. Subsequent to the alleged F-16 deal, an ostensible competition was held between the Belgian and American guns, after which the Army declared the Belgian gun to be the winner.

On May 19, 1976, we, along with other members of the Maine Congressional Delegation, Congressmen William S. Cohen and David F. Emery, joined Maremont in filing suit in U.S. District Court for the District of Columbia, alleging that there was such a deal, that the subsequent competition was not conducted according to the relevant statutes and regulations, and was preordained to determine the Belgian gun the winner. The suit asks that Secretary Rumsfeld and Secretary Hoffman be enjoined from carrying out the agreement pending resolution of a contract protest filed with the Comptroller General by Maremont Corporation, and thereafter be permanently enjoined.

We believe that the courtroom is the appropriate forum to settle the factual dispute we have with the Army and the Department of Defense, and do not ask our colleagues to make any determinations regarding this particular situation.

But we do believe that as a matter of national policy Congress should be made aware of any proposed agreements between the Secretary of Defense and officials of NATO nations which involve any sort of "quid pro quo" before such an agreement is finally entered into. In this way, Congress can participate directly in the weighing of standardization goals and domestic economic impact, and will thereby be able to consider with full knowledge future

legislation dealing with authorizations or appropriations for procurement of weapons.

We believe further that the goals of "standardization" and "interoperability" ought to be defined with much greater precision than is now present in Sections 802 and 803 of this proposed legislation, and the blanket waiver of the Buy American Act contained therein ought to be substantially tightened up.

Our own experience again sheds light on the dangers of potential for abuse without stricter definition. The version of the Belgian gun, MAG-58, proposed to be installed in the U.S. M60E2 tank is substantially different from the versions of the MAG-58 utilized by Belgium, Holland, and Great Britain, and the two versions cannot be substituted for one another without major modification. Further, the Maremont tank gun possesses the characteristic of a high degree of parts interchangeability with the standard M60 infantry machine gun and consequently would result in positive economies of scale in the area of parts supply.

We believe standardization ought to be defined in terms of ready substitution of one nation's equipment for another, or in terms of overall economies of scale, but should in no event be left open.

We shall be offering amendments directed at these objectives and solicit your support. Amendment No. 1665 is already available. . . .⁵³

The concern of the Maine Senators revolved around four points:

- (1) The new language encouraged package deals with foreign suppliers which would override competitive considerations; (2) The new language made it too easy for the Secretary of Defense to waive the protective Buy American Act; (3) The new language put NATO interests over the interests of domestic producers (or another way, put 'high' security interests over 'low' domestic interests); and (4) Specifically they were angered over the loss of the Maremont M60E2 contract by the Maine manufacturer of that gun due to what they maintained was a quid-pro-quo agreement between the United States and Belgium involving the F-16 sale.

Their amendment to the policy language, offered two days later, sought to gut the standardization section. It required reporting of proposed quid-pro-quo agreements 30 days before any agreement was formalized and prohibited purchases from foreign producers if United States equipment could be obtained at an equal or lower price. It also prohibited non-competitive procurements.⁵⁴

Note again the emphasis in Muskie's letter and in the amendment on lowest cost and minimum requirements. An important element in the Maine argument was that the M60E2 was cheaper and that it met the Army's minimum requirements, unlike the MAG-58 which was more expensive, but because it exceeded significantly some of the Army's minimum requirements (especially rate of fire resulting in higher estimated enemy casualties), the overall cost-effectiveness comparisons were distorted in favor of the MAG-58. Conspicuous in its absence in the Maine delegation's argument is any concern for the infantryman whose life might be spared through purchase of equipment which exceeded the minimum requirements. Rather, the Maine delegation focused on extremely parochial concerns of domestic protectionism.

Nevertheless, the Maine challenge was seen as a serious threat by Senators Culver and Nunn who had fought to have strong standardization language reported by the committee. Their goal was to amend the weaker language they were forced to compromise on during the Conference the previous year (see Chapter IV). This was the third

year of effort for both and they were anxious to see a strong policy endorsement of standardization pass.⁵⁵

Recognizing the seriousness of the Maine challenge, an off-the-floor agreement was reached between Muskie, Hathaway, Nunn, and Culver to:

1. Exempt the machine gun dispute from the policy language of the act, and

2. Drop the Maine amendment and substitute one requiring only that the President report all quid-pro-quo agreements to Congress within 30 days of their enactment.

The rehearsed floor colloquy illuminates this compromise:

Mr. Hathaway. Mr. President, I now offer this substitute, because of a concern which has arisen regarding the Army's recently announced tentative decision to purchase an armor machine gun, the MAG-58, from a Belgian manufacturer in preference to the domestically produced machine gun, the M-60E2, manufactured in Saco, Maine. There have been some suggestions in the press that the Army decision to consider the Belgian weapon resulted from an agreement between Secretary Schlesinger and the Belgian Defense Minister, Van Boynants as part of an exchange, or "package deal" for the Belgian purchase of the F-16 fighter aircraft.

In offering this amendment I do not ask my colleagues to make any determination one way or the other regarding this matter. Rather, my amendment would require that the Secretary disclose to the Congress the full details of the nature and substance of any sort of "quid pro quo" agreement with NATO nations in connection with any equipment authorized for procurement in this bill.

In this way, there will be a clearly expressed congressional policy that it wants to be informed in such matters and thereby be better able to carry out its duty to vote with full knowledge on any authorizations and appropriations legislation which comes before it.

Further, there have also been suggestions from time to time that the procurement of the Belgian machine gun would advance the cause of standardization. I am concerned about that charge since my understanding of standardization and of this procurement suggest to me that the procurement has no direct bearing on standardization. I would like to inquire of the authors of the standardization provision and of the chairman of this committee whether from their understanding of the armor machine gun procurement and the standardization principle they see any direct connection between this procurement and the policy standardization of NATO. . . .

Mr. Culver. As the Senator from Maine is aware, a recent GAO report on the Army's selection of the Belgian gun concluded, and I quote:

"The contribution either the MAG-58 or the M-60E2 would make to NATO standardization of equipment appears marginal."

I do believe however that selection of the MAG-58 would make a substantial indirect contribution to the longer term prospects for standardization by demonstrating U.S. willingness to move forward toward the development of a genuine "two-way street" on intra-NATO procurement. In my view expanded U.S. procurement of European weapon systems is an essential foundation of meaningful standardization in the long run. Thus while not substantially contributing to standardization of armaments within NATO the Army's decision to go for the MAG-58 represents an important commitment to a fundamental prerequisite of standardization.

Mr. Muskie. I thank my good friend from Iowa for his statement. I appreciate his cooperation in clarifying the remaining uncertainties in this dispute.

If I understand the Senator correctly, purchase of the Belgian MAG-58 would, at most, contribute indirectly by showing a willingness to move in the direction of standardization of armaments among NATO nations.

Is it correct to say that these new provisions in section 802(a)(2) which make explicit the authority to waive the Buy America Act would not apply to this procurement?

Mr. Culver. Let me say to the Senator from Maine that it is not my intention that this section apply retrospectively to the particular issue of the machine gun decision, since that decision predated this amendment, and since, of course, this amendment is not yet law. This provision does not, in my view, diminish the existing authority of the Secretary of Defense to waive the Buy America Act in the public interest.

But, neither the desirability of standardization, nor its legitimacy as grounds for waiving the Buy America Act is at issue here. It is my understanding that the Army's principal consideration in choosing the MAG-58 over the M-60E2 was reliability and not standardization.

Mr. Muskie. I thank the Senator. I ask the distinguished Senator from Georgia, who is also actively interested in this policy of the bill, if he would agree with the distinguished Senator from Iowa that it does not apply retroactively to the procurement of the machine gun which is in question?

Mr. Nunn. The Senator from Georgia does agree with the Senator from Iowa that this particular section is not intended to apply retroactively in terms of law.

Mr. Muskie. I thank my good friends from Georgia and Iowa and my colleagues from Maine for introducing this amendment. I appreciate their support and assistance in this matter.

I do have remaining concerns, however, about the Army's procurement decision here which relates not to the standardization issue, but to the question of whether the Secretary of Defense may have entered an agreement with the Belgian Defense Minister in June of 1975 under which the United States would agree to purchase the Belgian manufactured MAG-58 as part of a tradeoff for the Belgian agreement to purchase the F-16. Newspaper accounts reporting such an agreement back in June of 1975 first drew my attention to this matter and my suspicions about such a tradeoff have never been completely put to rest. The reporting requirement in Senator Hathaway's amendment, together with the understanding and assurances we have gained from the discussion here today, help alleviate many remaining concerns and I hope that we can proceed with affirmative action to require the reporting of any such agreements so that American workers and American industry will know precisely what agreements the Secretary of Defense has negotiated and be able to publicly evaluate the fairness and propriety of the arrangements. I hope that my colleagues from the committee will recognize the importance of these reporting requirements to American industry and American workers and will support the provision.

Mr. Hathaway. Mr. President, I thank my colleague from Maine and the distinguished Senators from Iowa and Georgia. I simply wish to address the chairman of the committee and ask him if this colloquy is consistent with his understanding of the situation?

Mr. Stennis. Mr. President, I have understood this matter now principally from the viewpoint of the committee. The Senator from Georgia and the Senator from Iowa have gone

into this matter thoroughly and have spoken for the committee. From my understanding of their representations here, it does comply with the situation, yes.⁵⁶

According to a Culver aide, both Nunn and Culver were concerned with preventing inclusion of any language in the standardization section which might: (a) be used in court against the procurement of the MAG-58 (as the Muskie-Hathaway amendment could be); or, more importantly, (b) which might get the policy language itself involved in a court battle. Thus, they wanted to avoid at all costs the Muskie-Hathaway amendment.⁵⁷ On the other hand, it would have been to Muskie's and Hathaway's advantage to have the restrictive language in the authorization act. But, they also realized the chance of their winning the battle was slim. That a compromise was worked out so quickly illustrates, in part, the parochial nature of the Maine challenge. To avoid a prolonged battle, Muskie and Hathaway agreed to drop their amendment in exchange for agreement, on the record, that the standardization section would not apply to the ongoing court fight over the machine gun. Thus, their battle with the Army would take place independent of the new language which would be more favorable to standardization and which, if it were in effect, could override and negate their allegations of impropriety.

In effect, Muskie and Hathaway were saying that standardization is an admirable goal, but not if it affects Maine. While it is true that their decision was a pragmatic one (they probably

would have lost the fight on the floor and hence come up with nothing), their willingness to fight the battle illustrates the difficulties that attempts to purchase foreign systems will face. It is easy to give lip service to standardization but when faced with bearing the costs of it, most will balk and fight it in Congress. That Maine ultimately lost its battle does not mean that all such parochial challenges will be defeated; a number of other factors related also to standardization were running in directions unfavorable to Maine's interests in this case as will be brought out in the conclusion.

In the interview with Mr. Stevenson, another interesting point regarding Maine's strategy emerged. He suggested that the Maine group probably realized all along that they would lose the battle, recognizing the significant forces aligned against them (most of which were also parochial in nature; that is, also low oriented - the F-16). Thus, they were interested primarily in gaining political exposure for the case so they could argue to their constituents that they at least 'fought the good battle'. The best way to do this would be to continue to pursue the court cases. However, the language which Nunn and Culver introduced might override their legal challenges and result in the case being dismissed. Thus they were willing to compromise in order to guarantee that they could pursue the court case with its political benefits.

The compromise language, as accepted by the entire Senate, was bought off by the House conferees during conference with a single amendment which required ". . . the Secretary of Defense to take into consideration in Defense procurement procedures the cost, function, quality and availability of the equipment to be procured while carrying out the policy of standardization." As House members explained, they were ". . . concerned that standardization not become a means of by-passing prudent consideration in the procurement process."⁵⁸ It is almost certain that the impetus for this amendment was, again, the machine gun controversy. The Belgian gun was significantly more expensive than the United States gun, a situation which was the reverse of the usual situation. Existing legislation (the Buy America Act with its price differentials) was not really designed to handle this reverse situation--price differentials were designed to protect United States industry from cheaper foreign goods. As Congressman Sam Stratton pointed out on the floor, no legislation existed to prevent the Secretary of Defense from purchasing more expensive foreign-made equipment while pursuing standardization.⁵⁹ The "cost-consideration amendment" now closed this gap.

Opponents of standardization immediately sought to apply the new law to their purposes. On the floor of the House, the amendment was interpreted as severely limiting the freedom of the Secretary of Defense to implement standardization. And, Congressman

William S. Cohen, another member of the Maine delegation, sought to use the amendment to attack the MAG-58 procurement. The exchange between Mr. Cohen and Mr. Stratton of New York is illuminating:

Mr. Cohen. Mr. Speaker, we heard earlier today about the Buy America Act, and I would just like to address that matter briefly.

My understanding is that the Buy America Act requires that all Government departments purchase for public use U.S.-manufactured articles, materials, and supplies in preference to items of foreign manufacture as long as the U.S.-manufactured items are of satisfactory quality and available in sufficient quantity; and the only exceptions they make to this is that where the head of the department determined that the purchase of the U.S.-manufactured items would be inconsistent with public interest or where the cost would be unreasonable. Obviously, cost is a very important factor; and we would not insist upon the purchase of American-made goods for products if the price were unreasonable as compared with foreign-manufactured products.

Therefore, comparability of cost is an important factor in the Buy America Act. Would the gentleman from New York (Mr. Stratton) agree with that?

Mr. Stratton. Mr. Speaker, if the gentleman will yield, I certainly would agree with it.

In fact, if the gentleman would look at the Buy America Act very closely, he would see that the only time in which heads of departments are allowed to buy abroad rather than buying American equipment is when the purchase of American equipment would be "inimical to the national interest," as he was already indicated, or when the cost of buying American equipment would be "unreasonable."

So, Mr. Speaker, the Buy America Act is actually addressed to the assumption that everything we get from abroad is going to cost less than the stuff we buy at home and, of course, that used to be the case a few years ago.

You could buy a Volkswagen for less than a Ford; you could buy a Toyota for less than a Chevrolet. The purpose of the Buy American Act was to prevent the purchase of cheaper foreign equipment unless the American equipment was unreasonably more costly.

The situation the gentleman from Maine has in mind, however, and to which this colloquy is addressed, of course, refers to a situation where the cost of buying foreign equipment is much greater than American equipment.

Mr. Cohen, That is what I would like to follow up on with the gentleman from New York. The conferees amended section 802(a)(1) of H.R. 12438, which requires the Secretary of Defense to take into consideration in defense procurement procedures, the cost, function, quality, and availability of equipment to be procured while carrying out this new policy of standardization.

Does the Secretary of Defense, pursuant to this amendment, have to take into consideration the cost of comparable equipment when he exercises his authority to waive the Buy American Act pursuant to section 802(a)(2) of H.R. 12438?

Mr. Stratton. I will say to the gentleman from Maine, first of all, that my own personal position was that we should have amended the Senate amendment which was involved in this particular case more strongly than we did. In fact, this was the position of all the House conferees. We did not like the Senate amendment. We were in favor of the idea of standardization but we were afraid that the requirement of the section, especially in subsection (2) of section 802, would have been damaging to American jobs without some kind of restraint. Unfortunately, the Senate was extremely persistent and we finally had to yield to put the restraining language into subsection (a)(1) of section 802 rather than in subsection (a)(2). That language that is included there appears on page 9 of the conference report as prepared with the House and says that in undertaking the policy of standardizing weapons in NATO certain procedures shall be carried out, and that those "procedures shall also take into consideration the cost, functions, quality, and availability of the equipment to be procured."

Therefore, to answer the gentleman directly, there is no question but that the intention of the conferees was to insure that in carrying out any purchases from abroad in the interests of standardization the Government could not ignore the matter of cost compared to comparable U.S. equipment. . . .

Mr. Cohen. Mr. Speaker, with reference to the Secretary of Defense taking into account the cost, is it fair to say that he must take into account the comparable cost of American manufactured products comparing them with foreign manufactured products?

Mr. Stratton. That is right, he not only has to take into account the cost--and it must be reasonable cost-- but it has to be the cost of comparable American equipment, comparable in function, in quality, and in availability. It does not do our armed services any good to buy equipment that is not as good as American-made equipment. We

certainly cannot have all our troops equipped with inferior equipment.

Mr. Cohen. Or if the cost is unreasonable, or that it is really quite excessive compared with the American manufactured product, assuming the American product meets the specifications and acceptable standards.

Mr. Stratton. That is right. If the foreign products are as readily available, serve the same function, are safe and of adequate construction, then it becomes a question of whether the cost is reasonable compared to the cost of U.S.-made equipment comparable to it. If that cost is unreasonable, then the Secretary cannot waive the Buy American Act.

Mr. Cohen. In sum, then, section 802, subsection (a)(2) is subject to section 802, subsection (a)(1) with reference to comparable cost of American-made goods?

Mr. Stratton. The gentleman from Maine is exactly clear and the conferees wanted to get that wording into subsection (2). We had to yield and put it in subsection (1) instead. But the Secretary must still be guided when acting under subsection (2) by the statement of overall policy set out in section 802, subsection (1).⁶⁰

The Senate later responded to this colloquy and, in their own colloquy, argued that the House Conference amendment did not limit the Secretary of Defense's power to waive the Buy American Act:

Mr. Culver. Did the conferees intend by that sentence [the conference amendment dealing with cost of equipment] to limit in any way the existing authority of the Secretary of Defense to waive the Buy American Act when it is inconsistent with the public interest?

Mr. Nunn. No. In fact, the conferees specifically rejected the addition of any qualifying language to the section allowing the Secretary of Defense to waive the Buy American Act for purposes of NATO standardization.

In other words, the final conclusions of the conferees, on the conference report, and the provisions adopted, clarified that NATO standardization is in the public interest, and that if we continue not to have standardization in all NATO, it is inconsistent with the public interest and inconsistent with the best interests of the American taxpayers.

Mr. Culver. I wonder if I might address one last question to the distinguished chairman of the Armed Services Committee.

I certainly believe there is a need to make this point absolutely clear in the legislative history on this point. In the Record of yesterday one of the House conferees suggested that the Secretary of Defense could not waive the Buy American Act if the cost is unreasonable. I understand the conferees fully discussed that issue and rejected that limitation. Is that the understanding of the chairman?

Mr. Stennis. Yes, that is correct. That very issue was discussed and it was rejected.

Mr. Culver. In other words, Mr. President, is the Senator from Georgia saying that the Congress will ultimately determine whether military equipment is to be purchased, and that we would have an opportunity to question the adequacy of the procurement procedures which may be followed?

Mr. Nunn. The Senator is eminently correct on that point. I am sure Congress will continue to carefully review the procurement of weapons, whether made here or abroad. But the purpose of these provisions and the purpose of the conference report is very clear: to clarify and, if anything, broaden the existing authority under the Buy American Act of the Secretary of Defense to move toward standardization and interoperability of weapons systems in NATO. . . .

Perhaps the most significant section of this bill psychologically and in relation to our NATO allies is the one relating to the so-called Buy American Act. Its purpose is to broaden and more clearly relate the "Buy American Act" to NATO. This section expressly, in law, authorizes the Secretary of Defense to waive the "Buy American Act" for purposes of carrying out the policy of NATO standardization. Although we certainly expect the Secretary of Defense to use his good judgment relating to the cost, function, quality and availability of equipment during the acquisition process, there are no strings in the authority for him to waive the "Buy American Act" in the law. That is really no different than the current provisions already in the "Buy American Act." These provisions allow the Secretary of Defense to waive the "Buy American Act" by simply finding that purchase of equipment in the United States is inconsistent with the public interest.⁶¹

The Senate position was that, once DOD decided to purchase a foreign system to advance standardization (considering cost along with other factors), the Secretary of Defense has almost

unlimited authority to waive the Buy American Act (he only had to decide that it was in the public interest). The House, on the other hand, saw cost as entering twice; first in the original procurement decision and second in the authorization to waive the Buy America Act (cost directly affects the determination of public interest). The philosophies behind the different positions are very important. To the House, cost is primary in determining the public interest. To the Senate, considerations of standardization may outweigh cost in determining the public interest. As Senator Nunn noted, "This new provision, in a way, says that NATO standardization is very much in the United States' public interest."⁶²

In concluding the debate over this policy language, Senator Muskie again sought to reiterate that the standardization policy language, as amended, was not retroactive. Another colloquy with Senator Nunn was necessary to reassure him and to, once again, get his position "on the record":

I am particularly reassured to learn that after the General Accounting Office and the courts rule in favor of the domestic manufacturer, as I am confident they will, the Department of Defense or the Army cannot then look to this legislation and invoke a claim of standardization to waive the Buy America Act.⁶³

Again, Muskie noted that he was not concerned with the policy itself, but only with the effect it had on his particular parochial interests.⁶⁴

This concluded Congressional action on the policy language in the FY 1977 Authorization Bill. Although a strong endorsement

survived, the Maine Congressional Delegation has succeeded, at great expense and time, in erecting one hurdle to standardization, the reporting requirements and in helping to add a more significant limitation to standardization - the "cost, functions, quality and availability" consideration. They further had succeeded in exempting the machine gun case from the new policy language which guaranteed that the foundations of their court case would not be cut out from under them.

Policy language: The International Security Assistance and Arms Export Control Act of 1976. Having added their mark to the Department of Defense Authorization language, the Maine group turned its attention to another piece of legislation, the International Security Assistance and Arms Export Control Act of 1976. The legislation, as reported by the Senate Foreign Relations Committee, required that the President:

. . . before issuing a formal letter of offer, must submit to the Speaker and the Chairman of the Senate Committee on Foreign Relations a numbered certification describing the country or organization to which the proposed sale is to be made, the dollar value of the sale, a description of the goods to be sold, and the entity of the Federal Government which proposes to make the sale.⁶⁵

While Hathaway supported this requirement, he felt (based on his concern over quid-pro-quo agreements and specifically the MAG-58) that the language did not go far enough. That is, instead of involving itself only in sales, the Foreign Relations Committee ought also to be concerned with purchases of military equipment

from foreign suppliers, especially those which are part of a package agreement:

Such agreements, if entered into, raise a number of policy questions which appropriately ought to be considered by Congress in connection with its veto power over large sales. For example, by participating in such a package deal, the U.S. officials, whether they realize it or not, are acting for the benefit of the manufacturer of the goods to be sold and to the detriment of domestic producers who might otherwise have provided the Armed Forces with the goods now to be purchased from the foreign countries.

Further, such agreements, if entered into, raise fundamental questions of business ethics. The promise by the United States to purchase the foreign made goods, unless fully disclosed and considered on its merits, should be viewed as a payoff of sorts to the foreign country for their "privilege" of doing business. This issue is not that different from the consideration raised by the cash payments allegedly made by certain manufacturers to foreign governments as "bribes" to purchase the U.S.-made goods.

Such agreements, if not disclosed, could lead to the U.S. purchase and utilization of goods and services from the foreign country which may not be of the highest quality, or the most cost-effective. In their zeal to close large weapons deals, U.S. officials may be tempted to engage in such horse trading, but I would submit that these deals may not be in the best interests of our national security and defense posture.

It could be argued that these deals are now or soon will be an international fact of life and that we will have to play the game in order to reap the benefits. I would disagree and argue that these deals lower the level of our international relations. But rather than engage in an extensive dispute over this, I would ask simply that Congress be informed of these deals and thereby be able to judge them on a case-by-case basis. In this way, Congress can approve package sales it considers appropriate and veto those it considers improper.

Package deals are objectionable from another standpoint: carried to an extreme, they run counter to over 40 years of Federal law and regulation concerning procurement procedures.

Under existing law, the Buy American Act ordinarily requires that goods to be used by the armed services be acquired domestically unless there are overriding cost or quality considerations or other overriding public interest

considerations. Federal procurement statutes and regulations in almost all instances require formal advertising, firm specifications, and competitive selection of the procurement contractor.

To instead give a foreign country the exclusive and immediate right to provide such goods to the United States in connection with a package deal is contrary to this structure and may well be illegal.

My amendment, therefore, would require that in addition to the information which may be requested by the congressional committees under section 36(b), these committees also be given a detailed description of the nature and substance of any "quid pro quo" agreement proposed to be entered into by the United States whereby it agrees to purchase or otherwise acquire the goods or services of a foreign country in connection with that country's commitment to purchase U.S. arms.

Included in this disclosure requirement would be an analysis of the impact such a "quid pro quo" agreement would have upon domestic U.S. manufacturers which might otherwise have provided the goods and services now to be procured from foreign countries. The committees could request, and the President would be required to furnish, an estimate of the domestic economic impact such an agreement might have, including the unemployment which could result.

Furnished with this information, Congress would then be equipped to reach an informed conclusion concerning the propriety and desirability of such agreement, approving those it considered appropriate and disapproving those it did not.

In this way our domestic manufacturers will know that their interests are not being ignored in the conduct of international diplomacy and our Armed Forces will be provided with the best quality goods and material which we are able to procure within our national budget priorities.⁶⁶

The amendment introduced by Hathaway to Section 36 of the Foreign Military Sales Act reinforced the importance of the Buy America laws as a limit or check on the quid-pro-quo or offset agreements which DOD hoped to use to implement standardization. Specifically, the Hathaway amendment required disclosure of

quid-pro-quo agreements and an analysis of the impact of these package deals on domestic industries. The result was to expand the reporting requirement to require the Secretary of Defense to report not only certain sales but also to report on all offset agreements including purchases and to conduct impact analyses on the purchases.⁶⁷ An additional effect was to bring the allegations of a MAG-58 'deal' out into the open again.

In 1977, Hathaway again entered the fray; this time, the vehicle was the International Security Assistance Act of 1977 which authorized funds for FY 1978. A section in the bill required the President to report to the Congress by March 15, 1978 ". . . on the impact of U.S. foreign arms sales and transfers on U.S. defense readiness and national security. The report should focus on arms sales since 1972 and include the impact of sales on U.S. troops stationed overseas."⁶⁸ As he had in 1976, Hathaway proposed an amendment which would require the President to report also on offset agreements and to analyze their impact on domestic industry. Again, whereas the originally bill focused only on sales, Hathaway expanded it to include purchases when part of an offset.⁶⁹ And, as in the previous year, attention was again focused on Hathaway's concern that the MAG-58 had been part of just such an agreement.

Hathaway, in expanding the original purpose of the bill (the original language sponsored by Senators Nunn and Bartlett was designed to correct the problems caused by the shipment of

essential United States military equipment oversea; it was brought on by the massive shipments of equipment to Israel during 1973) was quite astute in linking his proposal to Senators Nunn and Bartlett's narrower concern over overseas shipments. The irony, of course, is that Nunn was opposed to any limitations on standardization. He saw standardization as necessary to strengthen NATO--Hathaway, on the other hand, was arguing that standardization might, by hurting the United States, hurt NATO. The two measures, with unrelated and nearly opposing objectives, became linked in the same bill.⁷⁰

Referring yet again to the alleged deal with Belgium, Hathaway came back to his conspiracy arguments, noting that:

. . . Maremont, the Nation's only private manufacturer of machine guns, lost this contract under highly unusual and suspicious circumstances. As a result, Maremont's economic well-being as a key element of our defense mobilization base has been damaged and its future in this capacity has been threatened.⁷¹

Arguing that his concern went beyond merely defending jobs in Maine,⁷² he pointed out the need to carefully and publicly uncover the domestic (or "low") costs of standardization (a "high" policy).

Mr. President, I do not cite these conclusions solely out of concern for the jobs and economy of my own State, though I am deeply concerned, but more importantly, for the benefit of my colleagues in this body, to demonstrate that this is but one example of a pattern which is likely to repeat itself with increasing regularity in the future unless we take positive action today. We cannot afford to procure our basic weaponry from foreign sources if it will mean that our domestic capacity to produce these same weapons is eroded or destroyed. To do so would not only be robbing Peter to pay Paul, but cutting off our own defense arm as well.

This amendment would force the executive branch to face up to these issues. The President would be required to report back to the Congress on any and all quid pro quo agreements, understandings, or de facto, connected weapons transactions which have occurred since 1972. It is carefully worded not to require the burden of proof apparently demanded by the GAO in my one experience in this area. Rather, the de facto relationship between our sale of weapons to a given foreign nation and a concurrent, or closely related in time, purchase by us of that same foreign nation's weapons or other services, would be a sufficient connection to require that the overall transaction be analyzed in the context of the amendment.⁷³

Summary of policy amendments. By mid-1977, the Maine delegation had constructed an immense set of bureaucratic reporting requirements. The Department of Defense is now required to file reports on all standardization-linked procurements to six committees of Congress (the House and Senate Armed Services Committees, the Senate Foreign Relations Committee, the House Foreign Affairs Committee, and, under legislation to be discussed in the next chapter, both Appropriations Committees). The reports required vary from reporting on offset agreements to completion of complex impact analyses of purchases overseas. The effect of these requirements is to publicize and hence make extremely vulnerable the high policy decisions concerning standardization. Because of this increased publicity, there will be less chance of successful implementation of standardization.

Thus, while the Department of Defense did win its battle to purchase the Belgian gun, the cost was extremely high. The

opponents clearly achieved one of their objectives. The additional hurdles they constructed guarantee that it will be extremely difficult in the future to procure any foreign system, the purchase of which is at the expense of a competitive United States company. The implementation process, focused at the subgovernment level, will be highly visible in the sense that all interested parties will have been alerted by the reporting requirements. Successful implementation will, as a result, require (as it did in this case) continuing and powerful attention from high-level policy officials. Ironically, however, even high-powered attention will not be sufficient in those cases involving major weapon systems (such as the tank) and the minor issues which might be susceptible (such as the machine gun) will normally be too numerous and minor to attract the attention and time of high-level officials.

Machine gun funding: The \$15.1 million appropriation request for FY 1977. Having eliminated challenges to their court case from one quarter, the Maine delegation shifted to a more direct challenge to the MAG-58, the \$15.1 million requested by the Army for FY 1977 to purchase machine guns to mount on tanks.

The brunt of this battle was carried out on the House floor under the direction of Congressmen William S. Cohen (R-ME) and David F. Emery (R-ME) during mid-June of 1976. Having lost the battle to prevent Army selection of the MAG-58, they sought to delay for an entire year the funding for that system. Their public

rationale was that it was improper to fund a system for which procurement improprieties were being investigated by Congressional committees and the General Accounting Office and over which a court case was pending (to be discussed below). In reality, they knew the case would be settled by August of 1976,⁷⁴ long before the fiscal year for which the funding was intended would begin (the fiscal year would begin in October of 1976). Further, as suggested earlier, they probably recognized that they would lose the case. Hence, they were interested first in gaining additional political visibility and second in harassing the Army for choosing the Belgian gun by attempting to force over a year's delay in procurement.⁷⁵

The above argument is further supported by the fact that the Maine delegation had asked the District Court in early May for a preliminary injunction which was likely to be granted (the hearing was set for July 1, 1976), thereby legally restricting the Army from awarding the contract until after the GAO had ruled on Maremont's protest. Further, the Army had already agreed with Maremont not to proceed with the contract until July 7 or until the District Court had ruled on the motion for a preliminary injunction, whichever occurred first.⁷⁶ And again, in any case, the money would not be spent until at least October, by which time the entire issue would be decided. That the Maine delegation was playing sour grapes is thus clear.

A brief look at the arguments of Congressman Cohen on the House floor illustrates quite well the parochial nature of their position:

Mr. Cohen. Mr. Chairman, I would like to take this opportunity to direct a few questions to the gentleman from Alabama (Mr. Edwards). I was interested in the gentleman's remarks about the need to adopt a policy of standardization with the other NATO forces.

I would like to call the gentleman's attention to the fact that the Buy American Act requires that we award contracts and purchase American made materials and supplies provided they are of satisfactory quality and available in sufficient quantity. The only exception to this rule is where the head of the department determines that the purchase of U.S. manufactured items would be inconsistent with the public interest or where the cost would be unreasonable.

May I direct the gentleman's attention to the specific amount of money that is provided in this bill that would award a contract to Belgium for the purchase of certain machinegun weapons.

I would like to ask the gentleman from Alabama (Mr. Edwards), first, what is the immediacy of this funding for the purchase of Belgian weapon when it appears that there is substantial evidence that there may have been a violation of the Buy American Act? That, in fact, the House Committee on Armed Services is now conducting an investigation; that there is a suit pending before the U.S. District Court in the District of Columbia; and there is an appeal pending now before the GAO.

It would seem to me that fairness would require that we simply defer this small amount of money, some \$15 million until such time as the courts have passed on whether or not there has been a violation of the Buy American Act.

Mr. Edwards. . . If the gentleman will yield, the question as to the immediacy, I think, involves problems with the weapons on the M-60 tank. This has to be replaced, and, in addition to being replaced, it has to be replaced just as soon as it can be.

Mr. Cohen. Is the gentleman from Alabama aware of the fact that there is an American company, based in Illinois, with a branch in Maine that stands ready, willing and able and is prepared to produce a modification

of that weapon which indeed meets the acceptable level of the United States Army? . . .

Mr. Edwards . . . Mr. Chairman, if the gentleman from Maine will yield, certainly I am aware of the fact that there is a company in Maine that has developed the M-60 machine gun in competition with the Belgian machine gun. They have been evaluated on a side by side test which was monitored by the GAO, as to fairness, and the test was handled in a proper way. The test resulted in the conclusion that the Belgian machine gun was superior to the American made machine gun and that it was more cost effective.

Mr. Cohen. Mr. Chairman, I would point out to the gentleman from Alabama that the GAO has found that there is substantial question as to its superiority. I would point out that the Belgian weapon costs twice as much as the American made weapon. That their performance is acceptable, both of them, however that the American weapon in fact is more durable.

Mr. Chairman, it seems to me that this comes at a time when the country is shocked by the revelations of corporate payoffs to foreign governments to induce them to purchase American products and yet we have a situation where at least there is a very strong foundation of evidence that we have used the purchase of the Belgian weapon is an inducement for the Belgians to purchase our F-16 aircraft. Which to me is worse than the current scandals involving corporate payoffs to foreign governments. We now have a governmental payoff, or, in essence, a governmental bail-out for the country of Belgium.

I think in fairness since we have pending the question in the House Committee on Armed Services that is now conducting an extensive investigation into the alleged violation of the Buy American Act, and with a court suit pending, that we certainly should consider deferring the appropriation of that money at this time. . . .

Mr. Edwards. . . Mr. Chairman, I would like to have the attention of the gentleman from Maine.

If I may have the gentleman's attention just for a couple of comments, there is nothing unusual whatsoever about agreements between countries. We sell them some of our equipment. We in turn agree to buy some of theirs. I spoke in my opening remarks about the fact that we have sold the F-16 to a number of NATO countries. The AWACS, of course, we are trying to sell to NATO countries, and I spoke in those remarks about the fact that there is a need for a two-way street, and it is brought home to us frequently.

I am not suggesting to the gentleman that this is the only reason to buy the Belgian gun, but I cannot agree with the gentleman that in effect these are pay-offs or something equated with the corporate payoffs the gentleman referred to. . . .

Mr. Cohen. . . Is the gentleman aware that the Comptroller General's Office has indicated that the American-made machine gun would contribute more to standardization than would the Belgian weapon?

Mr. Edwards. . . The gentleman is aware that probably neither the Belgian machine gun nor the American machine gun is standard, but the Belgian machine gun is used in 60 nations. It is produced in three different nations. There is no problem with the ammunition. I think from that standpoint it fits the question of standardization as well or better than the American-made machine gun.

Mr. Cohen. If the gentleman will yield further, only three of the current NATO nations use the Belgian-made weapon. In fact, the Comptroller General has indicated the American-produced weapon would contribute more to standardization than the Belgian weapon.

Mr. Edwards. . . I am sure the gentleman is going to offer an amendment, and I am sure that we and others can carry on this colloquy. Somehow I do not like to stand here alone at this point arguing on behalf of a Belgian-made machine gun, but I am sure we will get into it later.⁷⁷

An amendment introduced on the House floor by Cohen and supported by Congressman Emery of Maine continued his arguments and reiterated many of the arguments his colleagues Muskie and Hathaway were making in the Senate. The amendment asked for deletion of the \$15.1 million.⁷⁸

Throughout the lengthy debate over this amendment were frequent appeals to cost, minimum acceptable performance, and jobs and a contrasting lack of concern (on the part of the Maine delegation) with the needs of the Army.⁷⁹ The parochialism of the challenge was clear and, although sympathetic, few other members

were willing to support the Maine delegation; the amendment was defeated.⁸⁰ This is probably because of the realization, supported during testimony in both the House and Senate during hearings on both the Authorization and Appropriation Bills, that the \$15.1 million funding was already contingent upon the outcome of the pending dispute.

The attempt to defeat the entire appropriation may have been a long shot on the part of the Maine delegation (or mainly for publicity). For, after the amendment failed, they turned their attention to the Senate with a fallback proposal. The Senate Appropriations Committee report on the Appropriation Bill contained language which, while retaining the \$15.1 million, qualified the funds by noting that ". . . the recommended funds are not contemplated for any particular gun and are to be obligated pursuant to resolution of the dispute."⁸¹ That the two actions were part of a well thought out plan is reinforced by the attack on the FY 1976 reprogramming which is discussed next. Also, while it seems unusual that the House Appropriations Committee report did not qualify the funds, it is necessary to keep in mind that hearings in the House on the Appropriation Bill were largely completed before the March 29 Army decision. The Maine delegation did not begin their attack in earnest until then. Hence, the strategy appears to have been to try to delete the entire amount on the House floor (where there was more chance of success than in the Senate) and,

failing that, to add a qualification to the Senate bill. The final conference report did contain the qualification.⁸²

It is clear that this action by the Maine delegation was largely unnecessary and aimed primarily at getting political attention. The Army made it clear from the start that it was willing to wait for the court decision. And by the time the Maine delegation began to focus on the Senate Appropriations Committee, the preliminary injunction had been issued (July 1, 1976). The only action which predated the court action was the attempt on the House floor to completely delete the money, and that action was more destructive than constructive. The qualification amendments in the Senate were constructive, but also, by the time they were acted on, unnecessary since the Court had already ruled.

In any case, the Maine attempt to delete the \$15.1 million was defeated and the funding in the FY 1977 Appropriations Bill was qualified by the conference report as contingent on the outcome of the court case.

Machine gun funding: \$5.9 million reprogramming for FY 1976.

In the final attack on funding for the MAG-58, the Maine delegation sought, in late July of 1976, to stop an Army/DOD attempt to reprogram \$5.9 million in FY 1976 funds for purchase of new machine guns to install on weapon systems coming off the production line prior to the end of FY 1976 when the \$15.1 million discussed above would become available. Again, spending of the money was to

be contingent on the outcome of the GAO/court hearings, as the Army clearly agreed to during the hearings.⁸³ Nevertheless, the Maine delegation sought to stop the reprogramming completely. Again, the hearings on this battle illustrate that the primary goal of the Maine delegation was the gaining of political visibility. For example, in the hearings, Hathaway argues that the Army was attempting to end-run the courts with the reprogramming:

Thus, it seems clear that this reprogramming request was intended as an end-run around the court and the GAO, and motivated by a desire on the part of the Army and DOD to close a deal quickly in order to make moot the legitimate dispute before those forums.⁸⁴

In fact, however, the reverse is true. The Maine group, by seeking to delete the money, even though it was already conditional upon the outcome of the court case (both by Army agreement and by the preliminary injunction issued by the District Court on July 1) was trying to end-run the appeal process and delay through legislation (by deleting money) what they were uncertain they would be able to do via the courts. The tactic, incidentally, was identical to that used during the regular appropriation process for FY 1977. Again, since the chances were great that they would lose this battle also, they were in reality using this as another forum for political visibility. That this was the case is clear from Hathaway's closing comments in a letter to the committee:

It would seem that, given this language, it would be inappropriate and inconsistent for this Committee to approve this reprogramming request for the MAG-58, and I would hope that it would disapprove the request, in

recognition of the Court's initial determination on this matter.

Alternatively, I would urge this Committee, if it feels these funds should be made available prior to the beginning of the fiscal year, to approve the request for the funds subject to the same qualification contained in its report. In this way there will be no doubt that this Committee intends to comply with the parameters of our judicial process.⁸⁵

This appears to be hedging on the part of Hathaway. He wanted to make sure that if the measure passed that some visible reference was made to the Maine opposition. That such a statement was redundant and totally unnecessary casts the whole attempt as a public relations effort; nevertheless, it was one which consumed significant effort and time.⁸⁶

This concludes the two attempts to defeat appropriations for the machine gun procurement. As noted throughout, the attempts were designed largely to gain maximum political visibility and to harass the Army. Little was or could be gained that was not already implicitly or explicitly understood by all parties, either informally through testimony before Congress or formally because of court decisions (the preliminary injunction). That the Maine delegation was willing to go to such unnecessary lengths illustrates the type of opposition that standardization issues will continue to face in the future; other cases will be less easy for DOD to resolve than was this one.

Court/General Accounting Office
Decisions

The third phase of the attack on the machine gun procurement took place in the courts and in the General Accounting Office. Following the March 29, 1976, Army decision, the Maremont Corporation (on April 7, 1976) filed a formal protest of the Army's decision with the General Accounting Office. Maremont's protest was based on these contentions:

Maremont has asserted that the replacement machine gun selection program was in reality a source selection or procurement process governed by the applicable procurement rules and regulations, which the Army violated. . . . Maremont asserts that the Army necessarily knew at the outset of the program that the selection of a particular weapon meant a single manufacturer was also being selected. . . .

Maremont argues that the Army cannot claim that uncertainty as to needs justified a failure to comply with the procurement rules and regulations. . . .

Maremont also contends that the Army did not inform Maremont of the evaluation criteria by which the machine guns would be evaluated. . . consequently, the procurement was not competitive as required. . . Specifically, Maremont asserts it did not know the Army's priorities regarding design and performance standards, nor that very little weight would be accorded low cost. . . .

Maremont also contends that the evaluation process was defective and that the MAG-58 does not represent the Government's minimum needs. . . .

Maremont further contends that the Army has only found the MAG-58 to be "superior" to the M60E2, not that the M60E2 did not meet the Government's minimum needs. In this regard, the Buy American Act D&F justifying negotiating the contract with FN merely states that the MAG-58 is "the best weapon possible at this time." Maremont contends that this is inconsistent with decisions of our Office [GAO]. . . .

[Maremont contends] that an award to FN would violate the statutory American preference for domestically-melted specialty metals [and that use of such metals might lead to difficult results if used in the gun].⁸⁷

To prevent the Army from acting prior to the GAO decision, suit was also filed on May 19, 1976, in the United States District Court for the District of Columbia by Maremont and the Maine Congressional Delegation against Secretary of Defense Donald H. Rumsfeld, Secretary of the Army Martin R. Hoffmann, and former Secretary of Defense James R. Schlesinger. The suit asked for a preliminary injunction against the DOD and the Army enjoining them from awarding a contract ". . . until the Comptroller General of the General Accounting Office had the opportunity to rule on the protest filed by Maremont and to permanently enjoin the award to Belgium thereafter."⁸⁸

On July 1, 1976, a preliminary injunction was issued by Judge June L. Green blocking the Army from issuing a contract to Fabrique Nationale for the MAG-58 until five days after the GAO ruled on the Maremont protest.⁸⁹ In her ruling, Judge Green found that since (based on the Courts considered judgment) there was a significant probability of success on the merits of the plaintiffs case, a preliminary injunction was appropriate.⁹⁰

In issuing the injunction, the Court supported two of Maremont's allegations. First, the Court found that there was evidence that the Army had violated the Armed Services Procurement Regulation (ASPR) requirements for a sole source procurement and second, that the Army may have violated another ASPR requirement ". . . by failing or misrepresenting the nature of the significant

evaluation factors and the relative order of importance the government attached to price relative to other factors."⁹¹ The Courts, however, did not address other arguments of the plaintiffs, including allegations of an F-16/MAG-58 tradeoff, challenges to the Army's testing procedures and questions of which gun made a larger contribution to standardization. Rather, the Court argued that on the basis of the two ASPR issues, enough evidence of misconduct existed to warrant the preliminary injunction pending the outcome of the GAO's more thorough investigation.

During the General Accounting Office investigation, Muskie and Hathaway continued their attacks on DOD in the arenas noted above (the Authorization Bill and Appropriation funds), but also took advantage of other arenas to surface their anger, generally selecting forums in which public visibility was highest and reiterating almost verbatim their same changes. During floor debate on another provision in the Appropriations Bill (one which was also relevant to the gun and which is discussed in the next chapter, the Specialty Metals Clause) Hathaway repeated his allegations of a trade-off and introduced new support material:

It is my own personal opinion that the tests which were conducted subsequently were structured and designed to insure that the gun ultimately picked would be the Belgian gun and that this sequence of events was most likely a consequence of discussions which occurred in June of 1975 and prior thereto by United States and Belgian officials.

I would add that I am not alone in this opinion, and refer my colleagues to the issue brief produced by the Congressional Research Service of the Library

of Congress titled, "Fighter Aircraft Programs (Light-weight): F-16 and F-18, numbered 75063." This document, as updated on June 4, 1976, states in one segment, which begins on page 3: . . .

"A last-minute DOD commitment to use the Belgian MAG-58 machine guns instead of American M60s on U.S. tanks in Europe, ostensibly in the interest of standardizing NATO equipment, was viewed as a special inducement to Belgium."

While I do not know whether the Library of Congress is in possession of specific factual knowledge which has thus far not been disclosed to the Committee on Appropriations, it does seem clear that the Congressional Research Service had made a determination on this matter weighing all of the relevant information from hearings, from domestic and foreign press sources and whatever other sources it might have at its disposal and had made the judgment alluded to.

Independent of these considerations of the connection between the F-16 and the MAG-58, it is clear to me that the domestic competitor for the machine gun contract was treated in an arbitrary and unfair fashion in the testing of the two weapons which took place subsequent to the committee's hearing on the matter. Consequently, I joined the corporation along with other members of the Maine Congressional Delegation . . . in filing suit on this matter.⁹²

Almost mercifully, I suspect, to many Senators and Congressmen subjected to two years of continued haranguing, the GAO, on August 20, 1976, issued its decision. It found that:

Based upon the foregoing review, we concluded that the Army has violated no law or regulation in, and had a reasonable basis for, determining the MAG-58 coaxial machine gun to be the Government's minimum need.

Accordingly, Maremont's protest is denied.⁹³

Addressing allegations of procurement violations and failure to define the minimum requirements prior to procurement and improper considerations of cost, the General Accounting Office found:

1. . . . Although protester now complains that selection process was procurement and Army did not comply with applicable laws and regulations, protester entered into process with "eyes wide open" and was not prejudiced. Army's

selection process was necessary to determine minimum machine gun needs, since there was insufficient data for Army to make such determination prior to completion of process.

2. Agency may legitimately conduct preprocurement tests and discussions with potential suppliers as well as consider cost when formulating minimum needs.

3. Since Army machine gun selection program was not procurement but rather process to determine minimum needs, no written Determinations and Findings (D&F) had to be prepared prior to selection of foreign machine gun as minimum need. In any case, agency's failure to prepare D&F prior to conducting negotiations preparatory to executing sole-source contract is deviation of form rather than substance.

4. Although specifications based on superior characteristics in excess to Government's minimum needs are generally considered overly restrictive, Army, acting within broad discretion, could legitimately specify machine gun, as critical human survival item, to be as reliable and effective as possible. . . .

5. If agency, in determining minimum needs, does not treat potential suppliers fairly or inform them as fully as possible of what is needed, it may reflect on reasonableness of minimum needs determination. Army machine gun selection process, by which MAG-58 was found to be minimum need, was fair and although Army did not specifically set forth bases on which weapons would be evaluated prior to side-by-side tests, all parties realized weapon operational reliability was paramount performance characteristic, and that cost was secondary in importance.⁹⁴

That the General Accounting Office found many of Maremont's allegations to border on sour grapes is clear from several of the above findings.

Responding to allegations of violations of one of the Buy America provisions,⁹⁵ GAO found that the:

. . . Buy American Act is not applicable to proposed MAG-58 machine gun purchase from foreign firm because Army has sufficient sole-source award justification and can therefore validly determine that MAG-58s are not manufactured in United States "in sufficient and

reasonably available commercial quantities and of a satisfactory quality." Also, Army discretionary determination that Act's application would not be in public interest cannot be questioned.⁹⁶

In summary, regarding the Buy America provisions, the General Accounting Office found that: (a) the Buy America Act could be waived since the Army had determined that the MAG-58 met minimum United States needs (and the M60E2 did not); (b) the Balance of Payments Program was not violated for similar reasons; and (c) the Specialty Metals Clause, to be discussed below, could be accommodated within the current regulations, primarily via purchase of United States metals, if available, which Fabrique Nationale had agreed to do.⁹⁷

Finally, responding to allegations of a F-16 tradeoff, GAO repeated its earlier findings that

GAO found nothing to indicate that a purchase commitment had been made, but the Belgians were assured the MAG-58 would be favorably considered if it proved itself in the tests.⁹⁸

Note, however, that the GAO did concede that "The Secretary of Defense had promised to give favorable consideration if the weapon met the U.S. Army's requirement and if it was competitive in price."⁹⁹ And the GAO also noted that ". . . the contribution that either the MAG-58 or M60E2 would make to NATO standardization of equipment appears marginal. It would, therefore, appear that this would not be a major factor influencing the selection of either gun."¹⁰⁰

Maremont Corporation apparently chose not to challenge the GAO decision further in the courts as no attempt was made to seek

a permanent injunction following the lapse of the temporary injunction five days later.

While this completes the discussion of direct attacks on the MAG-58, additional attacks were directed by the Maine delegation against amendments in the FY 1977 DOD Appropriations Bill affecting the Specialty Metals Clause of the Appropriations Acts. Since the specialty metals restriction would impact on the procurement of a foreign gun, these attacks were indirect attempts to subvert the Army's purchase of the Belgian MAG-58. As the discussion of the Specialty Metals Clause is broader than the machine gun procurement alone, it will be examined in the next chapter. Note is made of it here to point out that as extensive as the above attacks were, the list is not complete. And the target in this case was a relatively small (approximate total value was \$30 to \$40 million) procurement. The remaining question is why the attempts by the Maine delegation to kill the procurement failed.

Conclusions

The differences between the tank and the machine gun procurement issues are useful in illustrating those factors which directly impinge on implementation of standardization. The major question in this case is why, in spite of a massive two-year effort to defeat a relatively small procurement, the procurement still went through. Again, the subgovernment model proves useful in answering this question.

The primary difference between the XM-1 case and the machine gun issue was the differing attitudes of the Army. The tank was a key system to the Army; the Army flat out did not want to buy a foreign developed major weapon system. A machine gun, on the other hand, is hardly as symbolic or as visible as a tank. And, in this case where both guns were very good,¹⁰¹ the Army had no inherent problem with buying either gun. Lacking any other influences, in such a situation, the Army would probably buy American but primarily out of habit and because it would be the path of least resistance. However, in this case, there were significant other influences.

First, high level DOD pressure was brought to bear on the Army in favor of buying Belgian. Although no documentation to indicate improper pressure was uncovered, it was clear that Schlesinger and later Rumsfeld wanted the Army to go with the MAG-58. DOD pressure can be explained in light of two ongoing events. The first was the growing concern for standardization which began to surface in 1975 and which led to pressure on DOD from Congress. The second was the ongoing F-16 negotiations which were of major concern to DOD. DOD and the entire United States government wanted to sell the F-16 to Europe; if one of the keys to that sale was to be a \$30 million gun contract, DOD was not about to let that stand in their way. Thus, the DOD was responding to pressure both from Congress and from the larger military-industrial concerns.

Second, the Army itself saw the MAG-58 purchase as a means of diverting some of the criticism it was receiving because of its foot-dragging on the XM-1. The pressure from the Senate Armed Services Committee and, in the opposite direction, from the House Armed Services Committee was strong. However, as was clear from the XM-1 study, the Army was not going to give in on the tank issue. But there was no great desire on the part of anyone in the Army to make the pressure any worse, especially for something like the gun. Hence, the Army's decision to go with the Belgian gun can be seen as a politically pragmatic one.

This removed one critical corner from the subgovernment triangle. The Army had deserted the Congressional interest group relationship which left the Maine delegation and their clients without a critical fulcrum of support, illustrating how important all three of the corners of the subgovernment relationship are.

However, other factors also weakened the relationship and the Maremont case. Maremont, in its claim of hardship was fighting even larger interests--those behind the F-16 (General Dynamics plus hundreds of smaller subcontractors). The loss to Maremont was more than offset in a macro sense by the enormous gains to business and labor from the F-16 contract. Further, another major arms sale was also pending, that of the Airborne Warning and Control System (AWACS) to NATO. The Wall Street Journal suggested that the Belgian gun purchase showed a United States commitment to weapons standardization

which might also make the AWACS sale, a major coup for Boeing, easier.¹⁰² Thus, Maremont found itself without any support from yet a second leg of the subgovernment complex (or anyway, most of that leg--major labor groups and defense industries).

This left, in reality, only the Congressional leg of the triangle, the Maine delegation. While they fought hard, without the support of a broader industrial/labor alliance and without the support of the key bureaucratic actor, the Army itself, they could only harass, but not defeat, the implementation.

Further, since the Maine delegation was precluded from fighting their battle at the subcommittee level (with its relative invisibility) because of the strength of the F-16 interests at that level, it was forced to fight on the floor. The obvious parochial nature of the issue was too visible in this arena for many to support it. Had the Maine delegation been able to fight at the subcommittee level, the issue might have been less visible and Maine more likely to win.

That this explanation is valid is further reinforced by an examination of the broader issue, standardization itself. In that light, the fact that Maine's Maremont gun was a victim of the F-16 deal and of political pressures, and not the result of concern for standardization, is clear. For as was brought out throughout the controversy, neither weapon advanced standardization. While the MAG-58 was used by Belgium, Holland and Great Britain, others, such as

West Germany, used different guns. Both were common only in that they used NATO standard 7.62 mm ammunition. Further, the United States itself would have benefited more from selection of the M60E2 of which some 63% of the parts were standard with the United States' M60 infantry machine gun.¹⁰³ Further, the charge was made that the United States' MAG-58 would not be directly interchangeable with the MAG-58 of Great Britain, Belgium or Holland without major modifications.¹⁰⁴

In summary, then, what transpired was the symbolic purchase of a European system to: (a) show a political commitment to our vocal support of the "two-way street"; and (b) to facilitate the purchase by the Belgians of the United States' F-16 aircraft. While the subgovernment model would normally predict failure of a foreign procurement in such cases, a macro-application of the model is necessary to explain the success of the procurement and further reinforce the usefulness of the model itself.

In a final note, the actual results of the loss of the contract to Maremont are interesting. During the debate over the contract award, Maremont and the Maine delegation were predicting dire effects for Maremont and the Maine economy if the contract were lost. Predictions ran the gamut from estimates of layoffs of 500 of the 1200 employees in Saco, Maine,¹⁰⁵ to fears that the whole plant would be shut down.¹⁰⁶ The Maine delegation was predicting at least 600 layoffs.¹⁰⁷ In fact, however, the effects were much

milder. According to sources at the Maremont plant in Saco, no more than 200 employees were laid off starting in 1977 as a result of the loss of the contract. Of these 200, at least 175 were recalled to work within a year as the result of other contracts.¹⁰⁸

And, in possibly an attempt by DOD to make restitution to Maremont, the Corporation was awarded, in 1977, a \$94 million contract by the Army to produce some 13,000 M-2 50 caliber machine guns over a five-year period.¹⁰⁹ Unfortunately for Maremont, thousands of surplus M-2 50 caliber machine guns were discovered in 1978 leading to a cancellation of this contract.¹¹⁰ As the employment figures show above, this did not, however, appear to have hurt Maremont. Another press report indicates that Maremont, in 1978, and again in 1979 (first quarter) had recorded record profits.¹¹¹ The scare tactics of the opponents of the MAG-58 purchase appear to have been gross exaggerations and illustrate again the atmosphere within which standardization must be implemented.

Footnotes

¹U.S., Congress, General Accounting Office, Selection of A Machine Gun for Armored Vehicles, Report of the Comptroller General of the United States, Report PSAD-76-12, March 23, 1976, p. 5.

²Ibid., pp. 5-6.

³Ibid., p. 7.

⁴Ibid.

⁵Ibid., p. 8.

⁶Don Cook, "Belgium-and Ford-on the Spot in Jet Fighter Deal," Los Angeles Times, May 28, 1975, p. 1.

⁷See "Ford Seeking to Sell Belgium on U.S. Plane," Philadelphia Inquirer, May 28, 1975.

⁸Although by this time it is likely the interest in standardization, especially in the Senate, played some part in the Army Headquarters' decision to field test the MAG-58.

⁹"Belgium on the Spot," Los Angeles Times, May 28, 1975, p. 1; and "Ford Seeking," Philadelphia Inquirer, May 28, 1975.

¹⁰"Belgians Decide to Buy U.S. F-16's," New York Times, June 8, 1975, p. 3.

¹¹David Fouquet, "Belgium Decides on F-16," Washington Post, June 8, 1975, p. 1; See also "Belgians Decide to Buy U.S. F-16's," New York Times, June 8, 1975, p. 1.

¹²"Ford Seeking," Philadelphia Inquirer, May 28, 1975.

¹³David Binder, "U.S. Seeks to Clinch Belgium F-16 Deal," New York Times, June 5, 1975, p. 16; See also David Binder, "F-16 Sale is Felt in Arms Industry," New York Times, June 23, 1975, p. 5.

¹⁴Binder, "U.S. Seeks," p. 16.

¹⁵See, for example, internal briefing papers from Office of the Assistant Secretary of Defense for Public Affairs for this period.

¹⁶These words were attributed to Mr. Van den Boeynants in a Chicago Tribune article, "Belgium Tells Profit on F-16," Chicago Tribune, June 11, 1975, p. 2.

¹⁷See Binder, "U.S. Seeks," p. 16 for further evidence in support of this contention.

¹⁸David Binder, "Schlesinger Signs F-16 Accord," New York Times, June 11, 1975, p. 72.

¹⁹Senate Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1976, part 2, September 16, 1975, pp. 815-816.

²⁰Ibid.

²¹Ibid., pp. 808-809; reprint of Memorandum of September 5, 1975, from the Chairman of the subcommittee, Senator John L. McClellan, to subcommittee members.

²²"Belgium Tells Profit on F-16," Chicago Tribune, June 11, 1975, p. 2.

²³Binder, "Schlesinger Signs," p. 72.

²⁴Fouquet, "Belgium Decides," p. 1.

²⁵Ibid., in which it is reported: (a) that Mr. Van den Boeynants requested of Schlesinger that the U.S. buy the MAG-58 and that the Schlesinger response was favorable; and (b) that as a result of the second round of negotiations, the Belgians got much more than either the Danes or Norwegians and much more than the United States had originally offered.

²⁶Ibid.; See also "Belgium Joins Others, Picks U.S.-Built F-16," Wall Street Journal, June 9, 1975, p. 7. Other orders were for 72 aircraft for Norway, 84 for the Netherlands with options for 18 more and 48 for Denmark with options for 10 more.

²⁷"Belgians Decide to Buy," New York Times, June 8, 1975, p. 1.

²⁸U.S., Department of Defense, Memorandum for Correspondents, Assistant Secretary for Defense for Public Affairs, The Pentagon, March 29, 1976.

²⁹Letter reprinted in General Accounting Office, Selection of A Machine Gun, March 23, 1976, pp. 33-34.

³⁰Ibid., p. 1; Note that they did agree that "favorable consideration" was offered.

³¹Ibid., p. 11.

³²The chronology of events is important here. The Army had decided to test the MAG-58 and had ordered ten weapons for testing before the meetings between Ford and Tindemans and Schlesinger and Van den Boeynants. The Army decided on March 28, 1975, to include the MAG-58 in a side-by-side test with the M60E2 and initiated the procurement process to get the ten guns in April of 1975. The contract was finalized on June 24, 1975. The discussions involving Ford and Schlesinger were in late May and early June. Thus, the Army had already decided to field test the gun before the alleged agreement was made. This is not, however, to argue that the agreement was not made and it does not negate the opponents' charge that the competition turned into a charade before it really began, once the alleged agreement was made. This also does not address what role the broader pressures to standardize developing at this time played in the Army's decision to look at the MAG-58 in late March. The Army claims the decision was purely technical; however, I suspect and will argue later that an awareness of the changing political environment (in the Senate especially) was at least in the back of the Army's mind. See Ibid., pp. 8, 13.

³³Ibid., pp. 17-20.

³⁴Ibid., p. 19. Note that the Army was less lenient in doing the same for the German Leopard tank, although there certainly was reason to question some of the tank requirements.

³⁵Ibid., p. 23.

³⁶Business Week, April 12, 1976, p. 40.

³⁷General Accounting Office, Selection of A Machine Gun, March 23, 1976, pp. 25-31.

³⁸Ibid., p. 32.

³⁹Ibid., p. 10.

⁴⁰Ibid.

⁴¹U.S., Congress, Congressional Research Service, Report IB-75063, quoted in U.S., Congress, Senate, Congressional Record, 95th Cong., 1st Sess., June 15, 1977, 123:S.9901.

⁴²Ibid., p. S9903.

⁴³Joseph Luns, Secretary General of NATO, interview at the United States Air Force Academy, April 21, 1979.

⁴⁴House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 2, February 19, 1976, p. 464.

⁴⁵See the testimony of Army Secretary Martin R. Hoffmann, Senate Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977, part 2, February 3, 1976, p. 744. This testimony revealed an interesting fact. The total order of MAG-58s needed (should it be selected) would be 18,191. These would cost \$37 million if all were purchased from Belgium. However, if a production base were established in the United States, \$42.7 million would be needed to buy 16,000 MAG-58s from Belgium (the number of guns which would be needed before a U.S. production base could be set up) and produce 2,191 in the United States. The added expense of coproduction would be approximately \$5.7 million.

⁴⁶Ibid., part 5, March 5, 1976, p. 2797.

⁴⁷Ibid., pp. 2798-2799, for questioning of Assistant Secretary of the Army for Installations and Logistics, Harold L. Brownman.

⁴⁸Ibid., p. 2808. Especially interesting is the reference to low price and the implied reference to the Army's "minimum needs." This focus was to become the "centerpiece" of the opposition's arguments.

⁴⁹Ibid.

⁵⁰See "Rumsfeld Caught in Crossfire Between Maine, Belgian Gun," Baltimore Evening Sun, March 16, 1976, p. 2.

⁵¹U.S., Congress, Senate, Committee on Armed Services, Nomination of Donald Rumsfeld to be Secretary of Defense, Hearings before the Committee on Armed Services, 94th Cong., 1st Sess., November 12-13, 1975, p. 104.

⁵²Thus, the final Authorization Act would eventually include the \$15.1 million. See House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1977 (House Report 94-967), March 26, 1976, p. 53; Senate Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1977 (Senate Report 94-878), May 14, 1976, p. 70.

⁵³U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., May 24, 1976, 122:S7846-S7847.

⁵⁴Ibid., May 26, 1976, 122:S8093.

⁵⁵Technically they sought to amend Section 814(a) of the Defense Appropriation Authorization Act, 1976, with Sections 802(a) (1), (2) and (3) of the Defense Appropriation Authorization Act, 1977.

⁵⁶U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., May 26, 1976, 122:S8093-S8094.

⁵⁷Mr. Charles Stevenson, Legislative Assistant to Senator Culver, Interview in Washington, D.C., September 22, 1977.

⁵⁸Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1977 (House Report 94-1305), June 25, 1976, p. 53.

⁵⁹U.S., Congress, House of Representatives, Congressional Record, 94th Cong., 2nd Sess., June 30, 1976, 122:H7066.

⁶⁰Ibid.

⁶¹U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., July 1, 1976, 122:S11322-S11323.

⁶²Ibid., p. S11323.

⁶³Ibid.

⁶⁴Ibid.

⁶⁵Ibid., June 11, 1976, 122:S9036.

⁶⁶Ibid., pp. S9036-S9037.

⁶⁷Ibid., pp. S9035-S9037.

⁶⁸Ibid., 95th Cong., 1st Sess., June 15, 1977, 123:S9899.

⁶⁹Ibid.

⁷⁰Ibid., p. S9900.

⁷¹Ibid., p. S9903.

⁷²This is still hard to accept; recall his earlier willingness to allow the Buy American waiver if it was not made retroactive.

⁷³U.S., Congress, Congressional Record, 95th Cong., 1st Sess., June 15, 1977, 123:S9903.

⁷⁴The GAO had testified before the court that a decision could be reached within that time frame. It is reasonable to assume the Maine delegation was also aware of the GAO's operating time frame. See U.S., District Court for the District of Columbia, Memorandum Order, Civil Action No. 76-895; Maremont Corporation, et. al, plaintiffs, v Donald A. Rumsfeld, et. al, defendants, July 2, 1976, p. 8.

⁷⁵Although they probably realized also that there was little chance of success in this either and, hence, political visibility was probably their major consideration.

⁷⁶U.S., District Court for the District of Columbia, Memorandum Order, Civil Action No. 76-895, Maremont Corporation v Donald Rumsfeld, p. 7.

⁷⁷U.S., Congress, House of Representatives, Congressional Record, 94th Cong., 2nd Sess., June 17, 1976, 122:H6077-H6078.

⁷⁸Ibid., p. H6093.

⁷⁹See the debate, Ibid., pp. H6093-H6095.

⁸⁰Ibid., p. H6095.

⁸¹See Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1977 (Senate Report 94-1046), July 22, 1976, p. 180; No mention of this qualification was made during hearings before the Armed Services and Appropriations Committees; however, this was because the testimony on Army procurement had been completed in all four committees before Maine and Maremont brought suit challenging the Army's decision (on April 7 and May 19; see below). The Senate Appropriations Committee held hearings on Army procurement on March 16, 1976 (see Senate Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1977, part 4, March 16, 1976, pp. 1-19). The House Appropriations Committee heard testimony on Army procurement on April 1, 1976 (See House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1977, part 5, April 1, 1976, pp. 993-1161; see especially pp. 1087-1088). The Senate Armed Services Committee had completed all relevant hearings by April 6, 1976 (See Senate Armed Services Committee, Hearings on

the Department of Defense Authorization for Appropriations for Fiscal Year 1977). The House Armed Services Committee was finished with hearings by March 3, 1976 (See House Armed Services Committee, Hearings on the Department of Defense Authorization for Appropriations for Fiscal Year 1977).

⁸²Conference Report on the Department of Defense Appropriations for Fiscal Year 1977 (House Report 94-1475), September 3, 1976, p. 38.

⁸³Senate Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1977, part 6 (Reprogramming Armor Machine Guns), July 28, 1976, pp. 42-43.

⁸⁴Ibid., p. 57.

⁸⁵Ibid., p. 59.

⁸⁶I have been unable to determine if the reprogramming was successful or not. The only committee in which I could find reference to it was the Senate Appropriations Committee. To be successful, all four Committees (both Appropriations and both Armed Services Committees) have to approve it. Lacking evidence of hearings in any other committee, I assume it died. And further, I would venture that the reason it died was not because of the efforts of Hathaway, but rather due to other factors, primarily concern over whether the money would be needed prior to FY 1977.

⁸⁷U.S., Congress, General Accounting Office, Decision of the Comptroller General of the United States, Matter of Maremont Corporation, File B-186276, August 20, 1976, pp. 9-13.

⁸⁸Statement of Senator Hathaway before Senate Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1977, part 6, July 28, 1976, p. 45.

⁸⁹"Army Purchase of Belgian Guns Delayed by Court," Wall Street Journal, July 7, 1976, p. 7. Note that the original hearing was scheduled for June 4. The parties to the dispute agreed to delay the hearing to July 1 and the Army agreed not to award the contract until after the hearing or July 7, whichever comes first. See the Memorandum Order, U.S. District Court, Maremont vs. Donald Rumsfeld, July 2, 1976, p. 7.

⁹⁰Memorandum Order, July 2, 1976, p. 8.

⁹¹Ibid.; See also Katherin Johnson, "Court Temporarily Blocks U.S. Gun Buy in Belgium," Aviation Week and Space Technology 105(July 12, 1976):18-19.

⁹²U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., August 2, 1976, 122:SI3110-SI3111.

⁹³General Accounting Office, Decision of the Comptroller General, p. 46.

⁹⁴Ibid., pp. 1-2.

⁹⁵Violations of three "Buy America" provisions, The Buy America Act, the Specialty Metals Clause of the Appropriations Act and the Balance of Payments Program, were alleged.

⁹⁶General Accounting Office, Decision of the Comptroller General, p. 2.

⁹⁷Ibid., pp. 38-45; Maremont was to raise further objections to the Specialty Metals Clause which will be discussed in the next chapter. Briefly, they contended that switching to metals smelted in the United States might adversely affect the reliability of the gun; GAO declined to become involved in this technical argument, deferring to the Army's judgment.

⁹⁸Ibid., p. 45.

⁹⁹Ibid.

¹⁰⁰Ibid., p. 26.

¹⁰¹See Lt. Colonel P. Crevecoeur (Ret.), "The U.S. Choice of a Coaxial Tank Machine Gun," International Defense Review 9(May 1976), p. 772, for an excellent technical comparison of the two systems. As the author notes: ". . . the MAG would cause 7 times greater losses amongst enemy infantry. . ." and ". . . is more 'reliable' in the difficult battlefield environment, where it suffers 3.5 times fewer stoppages than its competitor."

¹⁰²"Army Chooses Machine Guns Made in Belgium," Wall Street Journal, March 30, 1976, p. 7.

¹⁰³General Accounting Office, Selection of A Machine Gun, March 23, 1976, p. 10; however, as the International Defense Review article pointed out, the MAG-58 is approximately 95% common with its infantry version, Crevecoeur, "The U.S. Choice," p. 771.

¹⁰⁴See the letter from Senators Hathaway and Muskie to members of the Senate, dated May 24, 1976, in U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., May 24, 1976, 122:S7846-S7847. However, one could argue that the MAG-58 indirectly aided standardization by increasing the chances for the F-16 agreement.

Of course, this implies that the F-16 aided standardization, which I have argued earlier that it did not.

¹⁰⁵The Maremont main plant where the M60E2 was produced; Business Week, April 12, 1976, p. 40.

¹⁰⁶According to a Maremont employee, quoted by David Binder, "F-16 Sale is Felt in Arms Industry," New York Times, June 23, 1975, p. 5.

¹⁰⁷Testimony of Congressman Cohen, U.S., Congress, House of Representatives, Congressional Record, 94th Cong., 2nd Sess., June 17, 1976, 122:H6093.

¹⁰⁸Mr. Schofield, Industrial Relations Manager, Maremont Corporation, Saco, Maine, telephone conversation, May 23, 1979.

¹⁰⁹House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1978, part 2, February 22, 1977, p. 91.

¹¹⁰"GAO Study Leads Army to Delay Maremont Job," Wall Street Journal, June 10, 1979, p. 10, and "Army Cancels Gun Order After Surplus Discovered," New York Times, October 7, 1979, p. 50.

¹¹¹"Swiss Company to Buy Maremont," Colorado Springs Gazette Telegraph, June 18, 1979, p. 13A.

CHAPTER IX

SPECIALTY METALS CLAUSE*

Since 1973, the annual Defense Appropriations Acts have contained language requiring that all specialty metals used in defense contracts be of domestic manufacture.¹ This language has always been opposed by the Department of Defense, but only recently has this opposition solidified as the DOD came to see the clause as a major hurdle to implementation of the "two-way street." Since 1975, the Department of Defense has tried to remove the clause or to amend it to allow easy waiver. These attempts were beaten back each year until, in 1977, DOD succeeded in attaching two amendments to the bill which authorized the Secretary of Defense to waive the clause under certain circumstances. The amendments, however, have now come under attack from the specialty metals industry (or parts of it). In addition, attempts have been made to bypass the Appropriations Committees (which tend to be less hostile to standardization (in the House) and to enact restrictive language in the Authorization Bill.

The following chapter details the history of the specialty metals debate and highlights some of the issues involved. Since

* To aid the reader in sorting out the complexities of the specialty metals case, a chronology of significant events can be found in Appendix 5. Since the MAG-58 and specialty metals cases are inter-related, a consolidated chronology of the two cases is provided in Appendix 6.

the machine-gun case is closely tied to this issue (waivers of the Specialty Metals Clause would be necessary to allow purchase of a foreign-made gun using foreign-melted specialty metals) continuing reference will be made to that case study. Senators Hathaway and Muskie of Maine are, again, key actors in the debate over the clause.

The Specialty Metals Clause

Specialty metals are only one of a list of items in the Defense Appropriations Acts for which procurement from United States sources is required (for the monies appropriated in that year's Appropriation Act). The restrictions are part of a section under the General Provisions and must be renewed yearly as the Appropriations Act does not become part of the permanent United States Code. These restrictions apply in addition to the restrictions imposed by the "Buy America" Act (41 U.S.C. 10a-d). Authority to waive the Buy America Act contained in the Defense Authorization Acts beginning in 1976 (and implied in 1975) do not apply to the specialty metals restrictions contained in the Appropriations Acts. Hence, in order to successfully pursue standardization, the Defense Department has been forced to seek, in addition to the waiver authority in the Authorization Act (of the Buy America Act), yearly waivers to the Specialty Metals Clause in the Appropriations Act.

The history of the clause itself and of DOD's attempts to delete or waive it follow.

In 1972, the specialty metals industry sought relief under the Appropriations Act for what they felt was insufficient protection under the Buy America Act. The Buy America Act

. . . requires that the U.S. government procure only those manufactured goods which (1) are "substantially all" from materials produced in the United States, and (2) are "manufactured" in the United States. The act, however, fails to define either "substantially all" or "manufactured."²

The problem lies in the definition of a manufactured good; that is, what is the end product. If end product is defined narrowly then a portion of the end product (i.e., the component parts) could be imported. In addition, the definition of "substantially all" is crucial to determining the actual extent of imports permitted. The basis of the industry's complaint was that under General Accounting Office and court interpretations, specialty metals were generally considered as components of military items; that is, GAO used a narrow definition of "manufactured." Further, as long as foreign procured specialty metal components did not exceed 50% of the cost of the end product ("substantially all" was defined by the GAO as at least 50%), which was more often than not the case, then there were no restrictions on their use.³ A further limit on the protection available through the Buy America Act was its "relative" clause; i.e., allowing waivers if the cost of domestic goods was unreasonable. In spite of the 6% and 12% differentials applied to commercial purchases and the 50% applied to military purchases, the industry claimed that foreign suppliers still undercut their prices.⁴

Thus, the specialty metals industry turned to the "Buy National" section of the Appropriation Act and sought to add specialty metals to the list of completely protected goods. Up until 1972, this list had consisted only of food stuffs and textiles. The amendment they proposed required that any specialty metals incorporated in defense items be melted in domestic plants with exceptions for: (a) domestic nonavailability; (b) procurements outside the United States in support of combat operations; (c) procurements by vessels in foreign waters; (d) emergency procurements; (e) procurements not in excess of \$2,500; and (f) procurements below prime contract level in programs other than aircraft, missiles and space systems, ships, tanks-automotive, weapons, and ammunition.⁵ Inclusion of specialty metals in the Appropriation Act's "Buy National" clause would thus close the loop holes of component and end product determination and price differentials which existed under the Buy American Act.

Several committees held hearings during 1972 on the amendment of the specialty metals industry.⁶ The basic argument of the specialty metals industry (the major representative of the industry now and over the next six years would be Colt Industries) was that the ability of private industry to maintain its current important role in carrying on the costly research and development required to develop the sophisticated specialty metals essential to meet increasingly sophisticated national security needs was being

undercut by massive inroads of foreign competitors into the less sophisticated commercial market. The industry argued that, over the long run, this eating away of bread and butter sales would result in a decline in the industry to the point that the United States would become reliant on foreign markets for the sophisticated specialty metals essential to defense needs. The industry argued that large sales in the less sophisticated commercial markets have been the means by which private industry has supported expensive research in the smaller defense market. According to industry testimony, some 60% of the industry's research and development had been directed to defense oriented needs in spite of the fact that the defense needs represented only some 10 to 15% of the United States' production.⁷ Further, the industry contended that foreign competitors were being supported by governments which allowed them to undercut United States' suppliers.⁸

An attempt to resolve the problem was initiated in 1968 via voluntary quotas. The United States entered into an agreement with Japanese and European Common Market steel producers to limit total tonnage during 1969, 1970, and 1971. The agreement also specified that the product mix of current exports from these countries also remain the same (the ratio of expensive to inexpensive steels). According to the specialty steel industry, these voluntary agreements had been grossly violated, in total tonnage and in product mix with a shift to more expensive steels. Further, only the six

EEC countries, Japan and Great Britain were covered by the voluntary controls. Other countries which exported specialty steels such as Sweden and Austria were not part of the arrangement.⁹

In spite of this, the State Department negotiated a new follow-on agreement for the 1972-1974 period. Given their past experience with voluntary controls, however, the specialty metals industry was not willing to trust to the voluntary limits and was trying now to impose legal limits on steel imports:

So the existence of a voluntary import-restraint arrangement in no way lessens the need for legislative action. The European steel companies have informed the State Department that they will consider the voluntary agreement voided if the United States legislates any restriction on the trade. Such a threat is empty since the voluntary agreement has so little meaning.¹⁰

Industry's decision to seek limits only on defense purchases of foreign steels was, however, questioned in the hearings. As noted above, defense requirements made up only some 10-15% of sales (some argued it was even less). Further, industry sources admitted that foreign intrusion into that market was only some 12-15%.¹¹ While recognizing that a limit on defense sales was not going to completely solve their problem and would be largely symbolic, the industry admitted that the broader import restrictions and quotas they really wanted were probably impossible to obtain. In hearings before the Senate Armed Services Committee, Mr. Edward Saunders, Deputy Assistant Director for Resource Evaluation, Office of Emergency Preparedness, confirmed their argument. Merely determining whether a real threat existed could take up to two years and the

probability of successfully negotiating broader quotas would be something less than 5%.¹² Further, passage of broader legal restrictions through the Congress was also discounted.¹³ The Defense Appropriations Bill was admittedly a fallback position, but it was industry's only hope of getting any protection:

Mr. Sikes. Would you say that the situation has reached emergency proportions which requires action at this time by whatever level it is possible to get relief? Are you prepared to say that to this committee?

Mr. March [Vice President, Colt Industries, Inc.]. Absolutely.¹⁴

The formal request by industry further supports this:

The defense problem emerges from the commercial problem. The defense problem cannot be corrected fundamentally without solution of the commercial problem. The Department of Defense should be encouraged to bring this matter to the National Security Council, as a policy guidance center to the Executive and its various agencies for setting a national specialty metals policy.

A step toward solution of the problem lies in the authority of your committee, if you wish to exercise that authority, and I urge you to do so. I propose that the committee recommend legislation to include specialty metals and the products made from them, in section 724 of the 1972 Defense Appropriation Act. The Department of Defense thereby would be required to limit its own and its contractors' purchase of specialty metals used in defense products to the American-made specialty metals, where practicable. The limitation involves currently about 5 to 15 percent of the output of the industry, and the appropriate amendment to section 724 would dramatically underline the industry's essentiality and stimulate its morale.¹⁵

The Department of Defense's initial reaction to the amendment was mild. In a letter to the Chairman of the House Appropriations Committee, the Assistant Secretary of Defense for Installations and Logistics, Barry J. Shillito, noted:

In general the Department of Defense agrees with the statements made by Mr. Strichman concerning the DOD need for a viable specialty metals industry in this country. We are vitally concerned with what happens to this industry for the materials produced by this segment of the industrial base are absolutely essential for the proper functioning of a wide spectrum of our more important defense systems. We therefore consider this industry to be of strategic importance to our defense posture and believe it should be treated as a national asset.

The defense requirements for these materials are currently only a small percentage of the total U.S. consumption, although in a national emergency defense needs would increase significantly which would place this country at a strategic disadvantage should we be dependent on foreign sources. This domestic capability must therefore be preserved. Since defense requirements amount to such a small fraction of the total U.S. consumption, action to limit defense orders to domestic sources would not meet such an objective. It appears that other broader measures would have to be taken; however, such steps are beyond the purview of the Department of Defense.¹⁶

While agreeing that there was a problem, they further argued that limits on the Department of Defense alone would not solve it.

Nevertheless, the two committees (Senate Armed Services and House Appropriations) reported favorably on the industry's request.¹⁷ The House Armed Services Committee was also involved informally and supported the proposal.¹⁸

By late 1972, however, the DOD position changed and it began to oppose the provision (probably recognizing that the restriction could be a significant one in those situations in which foreign procurement was desired). Although no hearings on the provision were held by the Senate Appropriations Committee, that committee's report did note the House Appropriations Committee provision and further noted that the Defense Department

. . . requested the deletion of "specialty metals" from the provision on the following grounds:

1. The administrative task of implementing the provision would be an onerous one, and very expensive.

2. The provision will not substantially aid the United States specialty metals industry since the Department of Defense consumption accounts for less than 5% of the total United States consumption.

Over the years, the committee has been concerned with the plight of those American industries that are suffering from foreign competition, and the specialty metals industry may need some relief. However, this matter was not considered by the committee during its hearings on the bill and the committee is not in a position to recommend the addition of "specialty metals" to those items in Section 724. Accordingly, its deletion is recommended.¹⁹

Nevertheless, the provision survived the conference and became law.²⁰

During hearings the next spring on the FY 1974 Appropriations Bill, DOD testimony against the Specialty Metals Clause mounted. DOD argued primarily that:

1. The clause hindered attempts at reducing trade barriers, especially alienating the Canadians who, DOD pointed out, bought more from the United States than we sold them, and

2. The Department's procurement of specialty metals was too small to affect the industry one way or the other.²¹

The testimony of the Assistant General Counsel of the Department of Defense for Fiscal Matters (Mr. Manual Briskin) strongly opposed the clause, questioning whether it had had any effect and pointing out the administrative and political costs it entailed.²² Industry, on the other hand, argued that the defense share was larger than DOD claimed (up to 30% versus DOD claims of

as low as 4%), that the provision had helped the industry recover over the intervening year and finally that the guarantees of market survival provided by the clause were critical to continued investment.²³

The House report favored the industry position, noting especially the industry's arguments on the essential role in national defense of the special metals industry and their claims that the provision had served to reverse the downward trend in the industry.²⁴

The House Appropriation Committee's report noted also the strong support for the industry's position provided by language in the separate authorization legislation for that year.²⁵ The Fiscal Year 1974 Appropriation Authorization Act contained language which reinforced the Buy America Act; the language was a virtual reaffirmation of the already existing Buy America Act with a few additional factors added which the Department of Defense was required to consider before it could waive the Buy America Act.²⁶

Completing the FY 1974 appropriation cycle, the Senate Appropriations Committee, although it did not hold hearings on the Specialty Metals Clause, in its report reversed its position of the previous year and supported continuation of the Specialty Metals Clause.²⁷ Thus, the clause remained intact for the second year, in spite of growing DOD opposition.

During hearings in 1974 on the FY 1975 appropriations, the Department of Defense made a very weak representation against the clause,²⁸ while the industry again argued in support of it.²⁹

The DOD/Administration request did not include specialty metals in the Buy National list; industry argued for its inclusion. Again, the House Appropriations Committee supported the industry:

In Section 823, the "Buy American" provision, the Committee again includes specialty metals in the list of articles and materials which shall be procured by the Department of Defense only from domestic sources. The Department requested the deletion of specialty metals from the list but was unable to present persuasive arguments for this position. The Committee once again received testimony that the provision continues to be very helpful to the specialty metals industry which is an essential industry to national defense.³⁰

The Senate Appropriations Committee concurred with the House language (again, apparently without holding hearings) and the clause remained for FY 1975.³¹

The clause received no attention for purposes of this study in 1975 (FY 1976), and it remained intact in the FY 1976 Department of Defense Appropriation Act.³² Thus, as recently as 1975, there was general agreement in both houses that the Specialty Metals Clause was a good one. The only opposition within the Congress had been from the Senate Appropriations Committee in 1972; after 1972, they, too, went along with the clause.

The situation began to change in 1976, however, as concern with NATO began to develop and as the Senate became interested in standardization. The Specialty Metals Clause was correctly perceived by proponents of standardization as a major hurdle to implementation of standardization policy.

In March of 1976, during the Senate Armed Services Committee's hearings on European Defense Cooperation, Major General Richard C. Bowman, in response to a question from Senator McIntyre which asked if any legislation was necessary to facilitate United States participation in NATO standardization, noted:

. . . Yes, the language in the 1977 Defense Appropriation Authorization [sic] Bill concerning specialty metals is too restrictive. In order to meet current and possible future commitments concerning procurement of Allied weapon systems, we feel that the following wording should be added to the Bill: . . . Nothing herein shall preclude the procurement of specialty metals produced outside of the United States when such procurement is necessary to comply with agreements with foreign governments which require the United States to offset sales by the Department of Defense and where such procurement is necessary to comply with agreements in furtherance of the standardization and interoperability requirements within NATO.³³

In a budget amendment submitted by the White House to the Senate on June 22, 1976, the President requested that language similar to the above be attached to the traditional "Buy National" section of the Defense Appropriations Act for FY 1976 (specifically that it be attached to the Specialty Metals Clause).³⁴

Interestingly, this amendment was not sent to the House, only to the Senate. It is clear that a significant amount of political maneuvering was involved in the timing of the amendment. A brief chronology of concurrent events will illustrate this.

Although the hearings in the Senate Armed Services Committee on European Defense Cooperation cited above were held in late March, it was almost three months later before the President submitted to Congress the language General Bowman had suggested as necessary for

implementation of standardization policy. The language provided the Secretary of Defense with authorization to waive the specialty metals restrictions for purposes of facilitating standardization (specifically if offsets were involved). This would modify the Appropriations Act restrictions with a waiver provision similar to that already applicable to the Buy America Act. It is probable that the amendment was submitted late in order to avoid House action; the House passed the Appropriation Bill on June 17, shortly before the President sent the amendment to the Senate.³⁵ Ironically, however, the House had deleted the entire Buy National section, including the Specialty Metals Clause. This action occurred during floor debate and was based on a point of order challenging legislative language in an Appropriations Bill.³⁶ While it is possible that the rationale for this action was as stated (the point of order), other interpretations are more plausible. One is that it was an attempt to preclude the waiver the President had hoped to add by deleting the entire section. If this is true, exactly what the initiators of the point of order hoped to accomplish is unclear.³⁷ It was more to the protectionists' advantage to keep the section, even with the waiver, than it was to delete it completely.

On the other hand, one senior DOD official indicated that he believed that pro-standardization individuals had knocked it out. While this interpretation makes more sense, it, too, becomes questionable given that the DOD did not follow up on the House action in the Senate. Rather, DOD supported, in the Senate, the

inclusion of the original clause with the waiver.

A third possible explanation is that protectionist forces felt that by knocking out the section in the House, they could preclude DOD action to amend it in the Senate, and then reinsert it during the conference in its original form. Even should DOD add the amendment in the Senate, the House conferees might be able to negotiate it out during the bargaining. This possibility is, however, hard to accept in that it leaves too many angles loose and requires almost conspiratorial agreements.

In summary, the explanation I found the most plausible is that pro-standardization forces did, in fact, knock it out in the House, but the DOD believed the Buy National restriction would eventually be resurrected and that it was best to go ahead with the waiver now. It is also possible that lack of coordination and bureaucratic inertia explain DOD's failure to seize on the deletion of the section.

In any case, the ultimate outcome supports the conspiracy theory. The Senate Appropriations Committee favorably reported the waiver amendment for the Specialty Metals Clause,³⁸ and the Senate as a whole approved it.³⁹ The single amendment by Senator Hathaway on the floor will be discussed below.

The House conference members, however, attacked the waiver provision and successfully pressed the Senate members to include only the traditional language without the waiver.⁴⁰ Thus, whether planned or not, the House had successfully defeated a major DOD/

Administration challenge to protectionism and had deferred, for at least another year, language which would have facilitated procurement of equipment using foreign-produced specialty metals.

The MAG-58 and the Specialty
Metals Clause

Attempts by DOD to waive the Specialty Metals Clause in 1976 were spurred by the impending purchase of the Belgian machine gun, the MAG-58, the manufacture of which required several types of specialty metals. Without the waiver, the possibility existed that the Belgians would be required to construct the United States guns out of metals melted in the United States, thereby affecting the design and possibly the performance of the weapon. Maremont Corporation, in a May 17, 1976 addendum to its protest to the GAO of April 7, 1976, pointed out this possibility, arguing first that purchase of non-United States metals would violate the Appropriation Act restrictions and second that a change in metal sources might cause a change in performance.⁴¹

As with the MAG-58, battles over the Specialty Metals Clause were fought in three arenas: in the Congress, through the courts, and before the General Accounting Office.

Congressional Amendments to the
1977 Defense Appropriations
Bill

Although the outcome of the battle over the FY 1977 Appropriations Act has already been discussed, the attempts by the Maine

delegation to modify it were an important part of the 1976 battle and are, in and of themselves, further illustration of the lengths to which protectionist, partisan forces will go. Efforts were focused largely in the Senate this time, where the President's amendment had been introduced and favorably reported by the Senate Appropriations Committee (see above).

Prior to floor debate and while the Committee was holding hearings and marking up the bill, Senators Muskie and Hathaway addressed a series of letters to the President concerning the waiver amendment and its relationship to the MAG-58. In a letter dated July 23, 1976, they stressed their contention that a "deal" had been made. They attacked the language in the amendment and supported language accompanying the President's amendment message which stated that the amendment was necessary

. . . to enable the Department of Defense to purchase supplies from foreign sources for the purpose of offsetting sales made by the U.S. government or U.S. firms under approved programs serving defense requirements or where such procurement is necessary in furtherance of the standardization and interoperability of equipment requirements within NATO.⁴²

Muskie and Hathaway asked what the President meant by "approved programs" and "agreements"⁴³ for which the waiver was required. They then sprung a trap they had carefully laid earlier, noting that the reporting legislation in the FY 1977 Authorization Bill, signed into law on July 14, 1976 (a week earlier), required the Secretary of Defense to report on all offset agreements. As they noted,

in their letter to the President of July 23, 1976:

The legislative intent behind this provision was that Congress be fully and currently informed of any agreements prior to its consideration of appropriations legislation in order that it might vote on such legislation with full knowledge.⁴⁴

Since the President had thus far not reported any offset agreements as required by the provisions of both Section 814(a)(1) of the Department of Defense Appropriation Authorization Act, 1976, as amended by Section 802 of the Department of Defense/Authorization Act, 1977, and Section 36 of the Foreign Military Sales Act as amended on June 30, 1976, both of which required reports on offset agreements, Muskie and Hathaway asked for "clarification" of which offset agreements the waiver was or would be aimed at, knowing that, at least in the short run, the MAG-58 was the target.

The President was thus boxed in. Having threatened him with deleting the entire waiver provision if he would not admit that the MAG-58 was part of the F-16 offset (which, politically, he could not do), Hathaway and Muskie offered, in a second of two letters sent to the President on July 30, 1976, to modify their opposition to the amendment if the President agreed not to push the waiver with respect to the MAG-58; that is, to guarantee that the waiver was not retroactive:

My concern over your intent behind proposing an amendment to the provision of Section 723 of the DOD Appropriations bills is based, in addition to the policy questions raised in the earlier letter, on my interest in any possible connection between this amendment and the Army's decision to award the contract for an Armor Machine

Gun to a Belgian firm. The Maremont Corporation and the Maine Congressional Delegation have challenged that decision on a number of grounds: the Buy American Act, the Armed Services Procurement Regulations, other procurement Statutes, and the prohibition on the purchase of foreign-made specialty metals as contained in Section 723 of the 1976 DOD Appropriations Act.

Consequently, any attempt by you and the Defense Department to obtain a blanket waiver of this latter provision seems to me to be directly related to justiciable issues now before the GAO and the United States District Court for the District of Columbia. Much of my concern over your intention in submitting your amendment proposal could be alleviated if you could assure me that this amendment would not apply to the Belgian machine gun and would not form a basis for disposing of the issue now before the Court and the GAO as to whether there are specialty metals in the MAG-58 and whether such metals are to be foreign made, in contravention of existing law. If I am not able to receive such assurance, I would feel bound to attempt to amend this legislation to eliminate this blanket waiver.

I would still have remaining concerns over the status of the F-16 sale and whether full disclosure of all offset agreements has been made to Congress as required under existing law, as outlined in my earlier two letters which I intend to bring to the attention of the Senate.⁴⁵

The President was trapped; if he wanted to pursue the MAG-58 procurement, he would be under strong pressure to report it as an offset agreement in order to allow waiver of the Specialty Metals Clause. But this would be an action which would strengthen Maremont's arguments before the General Accounting Office and the courts (waivers of the clause could be granted only: (a) if United States sources were not available as had always been the case; or (b) for standardization-related procurements as the current waiver provided for). Once Senator Hathaway was sure the White House understood the position they were in and agreed to his terms, he tempered his opposition to the waiver:

Instead, rather than offer an amendment to strike it, I have determined that my goals will be met, and the broader policy goals which I seek to be applicable in the future will be achieved, by the addition at the end of the President's budget amendment of the following language:

So long as such agreements with foreign governments comply with the requirements of section 36 of the Arms Export Control Act and with Section 814 of the Department of Defense Appropriation Authorization Act, 1976.⁴⁶

The new amendment was designed to guarantee that the waiver did not override existing legislation requiring DOD reports on reciprocal arms sales.⁴⁷

In fact the Administration could probably have bluffed and used the waiver for the MAG-58 without reporting it as part of an offset, since the waiver applied to all standardization related procurements, not just for procurements which were part of offset agreements. However, to avoid a fight over the waiver on the floor (and possibly lose), the Administration chose to exempt the gun from the waiver, a decision which cost little anyway, for the Army had already studied that problem and saw it as minor, as it indeed proved to be (see below). The compromise was intelligent for Muskie and Hathaway also as they might very well have lost everything on a floor vote for their original amendment.

Muskie and Hathaway were clearly aiming at a very localized issue at this point. And in so doing they again illustrate the problem standardization faces. While not opposed to standardization in concept, they were unwilling to accept its costs. Both went to great lengths to demonstrate their basic support of standardization:

Mr. Hathaway. I appreciate the Chairman's attention in this matter, and I hope this information is helpful to the Senate as a whole in terms of its scrutiny of this amendment and in terms of its consideration in the future of continuing efforts at standardization and cooperation with NATO nations.

In closing, I would like to emphasize that in no way am I an opponent of standardization or its objectives of cost saving. I emphasize, however, that this policy ought not to be subverted into becoming a blank check to ignore the legitimate concerns of all American manufacturers who ask simply that they be given a chance to compete and that the competition be a fair one. I hope that my amendment and the discussion we have had today, will insure this goal.⁴⁸

And Muskie picked up the discussion:

. . . there has been considerable discussion of standardization in the Congress in recent months directed in general toward the benefits and cost savings which such a policy can produce.

I welcome the effort to achieve cost savings in our defense efforts through standardization of interoperable weapons, but it is imperative as we consider that policy that the means does not overtake the goal. Standardization is not a goal in and of itself but is a policy directed toward achieving cost savings and combat efficiency in particular weapons systems among our NATO allies. It is perhaps best served in the development of high technology weapons system where duplicative costs associated with research and manufacturing startups can be avoided and in areas such as ammunition production where standardization can result in simplified battlefield logistics. We should understand, however, that the empty term "standardization" does not in and of itself serve in any way as justification for procurement of a foreign competitor over a domestic weapon. I believe that this was made clear in the conference report accompanying the authorizing legislation but it is appropriate that these concerns again be laid on the record.⁴⁹

The amendment passed on the Senate floor⁵⁰ but its life was short-lived. As noted above, the conference committee deleted both the President's waiver and the Hathaway amendment and reported out the original Buy National section with no waiver for specialty metals.

Court and GAO Decisions

As discussed above and in the previous chapter, one of Maremont's protests to the General Accounting Office (the May 17, 1976, addendum) was a challenge based on violations of the Specialty Metals Clause. GAO's interpretation of the clause would be important in two respects:

1. Its effect on future applications of the Specialty Metals Clause, especially with respect to standardization issues, since the Department of Defense had not won its waiver battles;
2. Its effect on the MAG-58 procurement.

On February 4, 1976, the Army assured GAO that should Fabrique Nationale win the contract, they (FN) had agreed to abide by the Specialty Metals Clause.⁵¹ The Army later again strongly implied that the MAG-58 would be made from United States melted specialty metals.⁵² Thus, the question of violation of the clause was largely diffused.

In response to Maremont's second argument that switching to United States metals might affect the guns operational capability, the Army responded:

The metals used by [FN] in the fabrication of the MAG-58 have equivalent U.S. steel classification codes. In general, the technical differences between U.S. and European steels are of such a nature that in the judgment of [Army] . . . technical personnel, a requalification test beyond the normal first item production test will not be necessary.⁵³

The General Accounting Office, in its August 20 decision deferred to the Army on this technical question but did recommend

extensive first article testing.⁵⁴

The concern over quality was moot, however, for on January 4, 1977, the Under Secretary of the Army waived the Specialty Metals Clause for the purchase of the first 10,000 MAG-58s.⁵⁵ The waiver was granted on grounds that the specialty metals were not available in the United States in the quantities or time needed.⁵⁶ The language fulfilled the requirements of the waiver provision already in the Specialty Metals Clause. The actual reason for the waiver is even more interesting. Although the Army did apparently plan to require use of United States melted specialty metals, when bids by Fabrique Nationale went out, no United States companies responded. Their reason was that the amounts needed by Fabrique Nationale were too small to bother with.⁵⁷ Interestingly, even Crucible Steel (the specialty metals subsidiary of Colt Industries, Inc. and a leader in the battle for inclusion of specialty metals in the Appropriations Act and against the DOD waiver authority) indicated to Fabrique Nationale that they were not interested in supplying the metals.⁵⁸

Maremont Corporation and the Maine delegation did not challenge this decision nor, needless to say, did the specialty metals industry. The ultimate result, then, was that a large part of the specialty metals battle had been fought over a procurement protection which the industry neither needed nor probably wanted.⁵⁹ Yet now a large grey area had been opened up, and it was a grey area which hurt the industry more than it did the Department of

Defense. By holding the MAG-58 up as the type of system for which specialty metals protection was necessary and then allowing later that it really was not (by failing to challenge the Army's waiver; or rather, by putting themselves into a position where they could not challenge the decision), the industry had lost a large part of their credibility and created a precedent for blanket waivers of whole families of similar type systems.⁶⁰

While this concludes the last segment of the MAG-58 battle, it was not the end of the specialty metals debate nor the end of involvement of members of the Maine delegation in the standardization argument. For, although DOD had won the MAG-58 fight, it was still unhappy with the lack of clear cut authority to provide waivers in similar cases. It was clear that cases would develop which might not be resolved favorably, as this one eventually was. Hence, the Department pursued the waiver again in the FY 1978 Appropriation Bill. The industry, in spite of these problems with determining where and how much protection was needed, would continue to oppose the waiver provision

FY 1978 Appropriation Bill

Prior to the hearings on the FY 1978 bill, the Office of the Assistant Secretary of Defense for International Security Affairs commissioned a study by the Vertex Corporation to evaluate the impact of the restrictions in the Specialty Metals Clause on NATO standardization policy and projects and to recommend actions

to be taken. Six months later, Vertex published their conclusions;

excerpts of their findings follow:

--DOD NATO related programs are not currently adversely impacted by the specialty metals clause. This is due to the ways in which service legal staffs have interpreted the clause, and because these programs are not sufficiently advanced that large scale procurements are being made from NATO sources.

--Current and future DOD NATO related programs may be adversely impacted by the specialty metals clause when production offset agreements are implemented or if current DOD interpretations of the law are successfully challenged.

--In its present form, the specialty metals clause could cause DOD (a) difficulties in meeting offset agreements, (b) difficulties in making direct NATO procurements and (c) misunderstandings with the Congress and industry.

--Offset production agreements can be expected to result in increased sales of U.S. specialty metals for items produced in the U.S. and may result in increased sales of U.S. specialty metals for foreign production.

--Direct procurement of weapons and equipment from NATO where standardization objectives are involved are unlikely to result in foreign specialty metals purchases large enough to adversely impact U.S. industry.

--U.S. specialty metals producers make a convincing, logical case that protection against unfair competition in U.S. production of defense material is needed.

--The DOD is an important user of specialty metals and protection for the U.S. specialty metals industry in defense procurement is warranted.

--This protection can be provided without adversely impacting DOD NATO related programs.

--To do so, changes need to be made in the 1977 Defense Appropriations Act which now potentially impedes legitimate DOD objectives and programs.

--This protection would provide that U.S. produced weapons and equipment be made from American melted specialty metals [but would not require that weapons procured by the U.S. from outside of the country be made from specialty metals melted in the U.S.].⁶¹

In summary, Vertex's findings were inconclusive--neither side was completely right or wrong. While they found no harm by the specialty metal industry on defense procurement,

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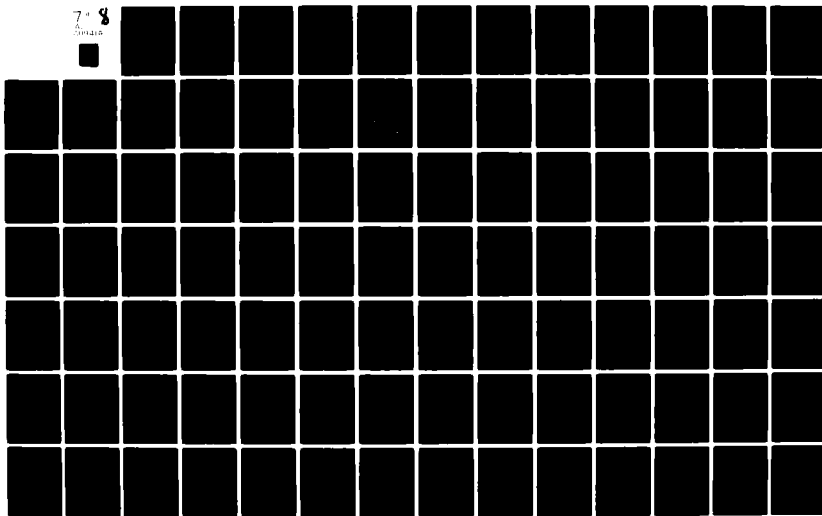
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Department of Defense claimed, they also found evidence that European manufacturers would buy United States specialty metals even in the absence of the clause (as was the case with the F-16). To resolve this standoff, the Vertex investigators sought to determine exactly where protection was needed and where it was not. Basically, they concluded that protection was necessary only for weapons manufactured in the United States and then only if an offset agreement was not involved, arguing that the offset situations would result in more than adequate recompensation for the industry. Protection in the other cases would prevent foreign suppliers of specialty metals from undercutting United States suppliers across the board in the United States market.⁶² Their suggested amendment would: (a) allow for purchase of foreign specialty metals for domestic production of weapons where an offset agreement was involved; and (b) permit procurement from NATO sources without regard to where the specialty metals were melted in situations where the procurement was standardization related. This suggested amendment was somewhat more restrictive than that passed by the Senate but defeated in Conference in 1976 and which the Administration planned to reintroduce in 1977. The DOD amendment went beyond the Vertex suggestion by allowing use of foreign specialty metals for domestic production even in cases where no offset agreement was explicitly involved but where standardization was still the rationale for the particular procurement decision. For example, use of foreign specialty metals in the construction of the MAG-58 in the United

States, a situation where no offsets were involved but standardization was still the rationale, would be permitted by the DOD amendment but prohibited by the Vertex suggested amendment.⁶³

Turning to the FY 1978 Appropriation debate, the specialty metals industry, represented again by Colt Industries, testified against the waiver amendment included in the President's FY 1978 budget message.⁶⁴ The Colt representatives claimed that a number of alleged violations of the clause were causing damage to the industry and that any further weakening of the clause would further exacerbate this situation.⁶⁵ They also argued that the original clause was consistent with and supportive of NATO standardization:

. . . I take this opportunity to point out that section 723 is in full harmony with all aspects of NATO standardization. Defense equipment made in the United States can and should--as the law requires--be made with American specialty metals--and that enhances America's strength as a NATO power; it adds to our industrial economic stability and to continuity of employment--a strong military force resting on a strong economic base. So, section 723 is to the general NATO advantage, because the strength of America's NATO allies is related to America's military-economic strength.⁶⁶

And, as with the Maine delegation earlier, their true concern of straight protection was highlighted:

. . . I support interdependence, but there is no need in all prudence to sacrifice American industrial economic interests and American jobs except on a fair shares basis. So while in support of NATO there is no objection to the use of foreign-melt specialty metals in the foreign manufacture of military equipment of American origin which is made abroad on license from an American company--as long as that company approves the use in the license agreement, and as long as the foreign-made equipment is used by foreign military forces. But I respectfully urge your committee, Mr. Chairman, to legislate

now as in the past, that all equipment made in America and procured by Defense appropriation funds be required to use only those specialty metals melted in the United States. That has been the fundamental proposition of section 723 relating to specialty metals since the first enactment, and it remains a sound proposition in this period of increasing concern with offsets and interoperability.⁶⁷

The Department of Defense rebutted the contentions of the industry, pointing out the inconsistencies between standardization and the Buy National section:

The foregoing statement of the will of the Congress with regard to standardization of equipment within NATO is set forth because it serves to highlight the inconsistency of the existing specialty metals procurement restrictions with that policy and the resulting attitude of skepticism which has been frequently voiced to us by representatives of the NATO countries as to the weight which can actually be given to that policy.

The impact of the present specialty metals restrictions on implementation of the Culver-Nunn amendment and government-to-government reciprocal procurement agreements is felt in a variety of situations.

In those instances where NATO member governments are considering a decision to standardize on a U.S. source weapon system, and to coproduce elements of their requirements and those of the United States, a very important factor in the decisions is the arrangement for the allocation of production work among the member countries. Substantial difficulties are encountered in obtaining parliamentary approval for those projects which do not afford a reasonable opportunity for participation by local industry. Frequently the quantities to be procured to meet U.S. needs form the major portion of total production. It is very difficult for the defense representatives of these countries to justify to their parliaments the acquisition of U.S.-developed defense equipment where U.S. national legal requirements either preclude or make economically infeasible the procurement, from their home industry, of components destined for U.S. purchases systems. Along this line, the specialty metals restriction can be a significant impediment to such arrangements--especially in those instances where the specialty metal material content of a component, while insignificant, would result in an uneconomical production

situation for the foreign component source if it were required to fabricate the items from specialty metals imported from the United States. . . .

Mr. Callahan points out "that section 723 is in full harmony with all aspects of NATO standardization." This needs important qualification, as I have explained in this statement. At present, DOD cannot purchase any item from a foreign source without requiring that source to purchase the specialty metals in the United States, no matter how minor the requirements for specialty metals is as a percentage of the finished item. This causes disruption of established supplier relationships for the foreign firm as well as ill feeling toward the United States for requiring such a condition in a purchase from the foreign source.⁶⁸

Further, in rebutting Callahan's three basic contentions that the law, as written in the past: (1) encourages research; (2) assures United States labor skills will not be lost; and (3) saves DOD from dependence on foreign specialty metals,⁶⁹ the Department argued, quite persuasively, that:

Based on DOD records, the DOD and its contractors purchase approximately 14 percent of the output of the specialty metals industry. Given this small percentage of DOD procurements of specialty metals, and the fact that DOD, in comparison to its total procurement, buys very little equipment from the NATO countries, Australia and Switzerland (the countries that DOD's exemption would apply to), it follows that the amount of sales that would be lost to the specialty metals industry if DOD's proposed amendment is incorporated into section 723 be minuscule. Therefore, the profit available from these sales to use for research and the loss of labor would also be minimal.

In addition, we believe that any loss of business and jobs from this change would be more than offset by increased procurements within NATO that would benefit the U.S. specialty metals industry (as in the case of the F-16 sales).

On Mr. Callahan's third point, DOD is very aware of its needs for mobilization and does not intend to become dependent on foreign sources for specialty metals or any other item, whether there was a section 723 or not. In addition, the basic thrust of DOD's amendment would be to allow foreign sources to use their own specialty metals,

not for U.S. companies to use foreign specialty metals in their own manufacturing, since we are talking about NATO standard equipment and the metals that go into them.⁷⁰

To illustrate one of the major problems caused by the Specialty Metals Clause, the Department pointed to the F-16 program (one of many they argued was affected by the specialty metals restrictions):

In the F-16 program, we are informed by the engine manufacturer that specialty metal comprises approximately 94 percent of all material contained in the modules or parts selected by the European coproducers for coproduction in the consortium. Currently, all available sources for such specialty metals are in the United States and the coproducers have indicated that they intend to procure such material from U.S. sources, even absent the contractual requirement to do so. The coproducing nations have taken the position, however, that notwithstanding that the choice of U.S. sources for specialty metals was dictated by technical considerations, the inclusion of the specialty metals clause in the subcontracts with the European sources gave these specialty metal purchases the character of directed procurements. Under the F-16 arrangements, directed component procurements are not counted as fulfilling an offset commitment. Thus, the portion of the cost of these components representing the U.S. source specialty metal cost will have to be made up, if the United States is to meet its offset purchase obligations by additional purchases from European industry to the detriment of other U.S. industries.⁷¹

As pointed out in this excellent rebuttal by DOD, the protection gained by the specialty metals industry is illusive in a macro-sense; other industries ultimately pay the cost, and the industry itself may lose in the long run.

Arguments in support of the waiver were also prepared by the British Embassy, concerned with implementation of the Memorandum of Understanding (MOU) between the United States and Great Britain

which was signed on September 24, 1975. The purpose of the MOU was ". . . to improve the balance of defence trading between the two countries and to further standardisation and interoperability within NATO."⁷² They argued that the current clause limited implementation:

Under the reciprocal terms and conditions of the MOU, British companies are allowed to compete commercially on an equal basis with U.S. companies in bidding for U.S. defence contracts, and the provisions of the Buy American Act are waived for this purpose. However, the equality of opportunity is inhibited, inter alia, by the limitations of the annual Appropriations Acts which require the specialty metal content of defence equipment to be procured from a U.S. source, unless the specified grounds for a waiver from the normal ASPR conditions are fulfilled.⁷³

In summarizing their support of the waiver, the British Embassy argued:

Finally, we suggest that successful interdependence and work sharing goes much further than the concept outlined in the Colt Industries Statement. European production, or part production under licence, of U.S. systems being used by NATO is one important aspect. More fundamental is the necessity for Governments to be able to justify the industrial and foreign exchange implications of buying a major weapon system from the United States, in lieu of a national programme, by being able to demonstrate that some reciprocal work is available under a cooperative and specific offset arrangement. In the case of the U.K. we are seeking to achieve a more equitable defence trading balance by creating a procedural framework for free competitive bidding by our defence companies, as distinct from specific offset proposals. If that objective is not achieved, clearly it becomes more difficult for the U.K. Government to consider procurement of U.S. weapon systems, and this would impact not only on specialty metals interests but more generally in U.S. industry. It is a historical fact that the U.K. has bought five to six times as much defence equipment in value than the U.S. has bought from the U.K. It is, therefore, much to the overall advantage of the U.S. defence industry that

we create and maintain the circumstances that make it politically and industrially possible for the U.K. to continue to purchase defence equipment on this scale from the U.S.⁷⁴

DOD arguments were persuasive as both the House and Senate Appropriations Committees reported the waiver favorably.⁷⁵ The only minor hurdle was, once again, Senator Hathaway. When the bill reached the Senate floor, he insisted on attaching his fall-back amendment of a year earlier which required that

. . . such agreements with foreign governments comply with the requirements of section 36 of the Arms Export Control Act and, where applicable, with section 814 of the Department of Defense Appropriation Authorization Act, 1976.⁷⁶

Again, he wanted to assure that the waiver provisions did not override the earlier reporting requirements. The amendment was accepted, with minor changes, by the Conference Committee.⁷⁷

Although the waiver amendment, as passed, was broader than the amendment the Vertex Corporation had recommended to be pursued by DOD, I suspect that the actual difference between the two was slight, especially as DOD began to place almost all standardization procurements within the rubric of offset agreements negotiated within broad Memorandums of Understanding (MOUs).⁷⁸

Thus, the waiver amendment long sought by the Department of Defense was finally incorporated into the Appropriations Act for FY 1979.⁷⁹ Yet the opponents of the waiver were not willing to accept this broad waiver and attacked it in several arenas during hearings before Congress during the next year.

FY 1979 Appropriation Authorization
and Appropriation Acts

Spurred by growing concern over standardization policy, opponents of that policy in the House Armed Services Committee joined the battle, attempting to attach to the FY 1979 Appropriation Authorization Act a clause similar to the original Specialty Metals Clause of the Appropriations Act. While the Appropriation Authorization Acts for FY 1974 and FY 1975 had contained Buy America Amendments, they were significantly different than the Buy National Section of the Appropriation Acts.⁸⁰ This year, the amendment added by the House Armed Services Committee was identical to the Specialty Metals Clause in the FY 1978 Appropriations Act (and in the FY 1979 Budget Request) but without the waiver authority the Department had finally secured in the FY 1978 Act. Hence, the House Armed Services Committee this year did to the Buy America Act what the Appropriations Act of FY 1973 had done to the Act - it closed a loop-hole which the Appropriation Acts of FY 1974 through FY 1977 had continued to keep closed, but in FY 1978 opened back up. In an internal squabble, the House Armed Services Committee, a center of opposition to standardization, sought to strengthen what the House Appropriation Committee (more sympathetic to standardization) had agreed to weaken.

The House Armed Services Committee, in their report noted that

. . . the committee has become aware of specific instances where the operation of the above exemption has produced or will result in an adverse impact upon the U.S. defense industry. Moreover, it has come to the committee's attention that the Department of Defense failed, prior to making its recommendation for the exemption on specialty metals, to analyze adequately the impact this modification might have upon the domestic specialty metals industry or the U.S. economy as a whole. Therefore, the committee recommends the reimposition of restrictions on foreign-produced specialty metals for funds subject to annual authorization in the defense budget as set forth in this section.⁸¹

Supporters of standardization sought, unsuccessfully, to attach the Appropriations Act waiver provisions to the clause on the floor along with a provision calling on the Secretary of Defense to make the analysis the House Armed Services Committee said was lacking. The waiver was opposed strongly by Mr. Melvin Price (D-IL), Chairman of the Committee, and was thus rejected.⁸² The bill passed the House with the clause intact.⁸³

The irony of this situation is that, while the House as a whole had accepted the waiver to the Specialty Metals Clause in the Appropriations Act of 1977 (on June 30, 1977 voting on the Committee Report,⁸⁴ and again on September 8, 1977 voting on the Conference Report⁸⁵) and would vote in favor of it again in the FY 1979 Appropriations Act on August 9, 1978,⁸⁶ they voted it down on May 24, 1978, during debate on the Authorization Act. Thus, the House was on record over a two and one-half month period in 1978 as both supporting and opposing the Specialty Metals Clause.

The House Armed Services Committee's victory was, however, short-lived as the Conference Committee deleted the amendment, noting:

The conferees agreed that the President of the United States should determine whether or not the importation of steel from foreign countries for arms manufacture is excessive, depressive or beneficial to American national interest; and if he finds that the importation is excessive, he should take active steps to negotiate a fairer proportion of American steel for production of arms in the United States.⁸⁷

It is interesting to note that this Conference pitted Congressmen Stratton and Nedzi (two strong opponents of standardization) against Senators Nunn and Culver (two strong proponents). Nunn and Culver had won standardization battles in this situation before. It is likely they (and especially Culver, according to congressional staffers) carried the day.⁸⁸

Hearings on the FY 1979 Appropriation Bill were largely repetitive of the FY 1978 hearings as the specialty metals industry, led again by Colt Industries, launched an extensive attack on the waiver. They sought to show that the waiver had significantly hurt the industry. The industry's arguments were based on four points:

1. NATO is best served by strong United States industries;
2. The size of the defense share of specialty metals is not proportional to its importance, especially with respect to the effect it has on encouraging research;
3. Foreign exporters are strongly subsidized by their governments; and
4. DOD had too broadly interpreted its waiver authority, especially in the case of trade with Britain in implementing the MOU with the British.⁸⁹

In general, the industry failed, however, to support its contentions with data, relying rather on emotional, protectionist arguments. While it was clear from the documentation which they provided that the Department of Defense was interpreting the waivers (Buy American and specialty metals) very broadly, especially in its dealings with Britain,⁹⁰ the industry witnesses failed to show how, if at all, it hurt the industry. Rather, the industry on the basis of an emotional appeal to nationalism requested a return to a pure Buy National policy.⁹¹

The Department of Defense did not publicly debate industry position. In testimony, they noted that they felt that limits on the Department were superfluous and, rather than helping the industry, actually damaged it:

We have no data as to the impact, if any, of this provision on the specialty metals industry. In view of our estimate that the Department of Defense direct consumption of specialty metals is less than four percent of the total domestic production the impact of this provision should not be great. In terms of the importance of demonstrating our commitment to the "two-way street" for the NATO alliance; however, the significance of this provision is far greater than the dollars involved.⁹²

Further, they noted that they had received no negative feedback from industry on the exemption.⁹³ The only direct challenge to DOD was a feeler from Congressman Sikes of Florida suggesting a limit on the countries the waivers could be applied to. The Department successfully resisted this.⁹⁴ Testimony in the Senate was similar to that in the House.⁹⁵

As they had the previous year, both Appropriations Committees reported the Buy National Section with the specialty metals waiver intact.⁹⁶ The waiver thus remained in effect for FY 1979,⁹⁷ as it would also for FY 1980.⁹⁸ In that year's appropriation, one additional category of goods was exempted through the waiver; that being chemical warfare protective clothing which, as noted above, the United States was planning to purchase from Britain under the umbrella of standardization and the two-way street. That the United States and Britain have standardized on Chemical Biological Warfare (CBW) clothing is of questionable military benefit, however, and again illustrates the essentially economic nature of the two-way street.⁹⁹

GSA Appropriations

In a related action earlier in 1978, the specialty metals industry (again represented by Colt Industries) tried to amend the FY 1979 Appropriation Bill for the General Services Administration (the Treasury, Postal Service and General Government Appropriations Act, 1979) to include a broad prohibition on purchases of specialty metals similar to that in the DOD Appropriation Bill (without the waiver).¹⁰⁰ They also used this forum to seek support for their upcoming battle with the Department of Defense over deletion of the amendment added the year before. Again they challenged DOD's liberal granting of waivers through negotiation of broad offset agreements under MOUs.¹⁰¹ In part, their drawing in of the

Department of Defense in these hearings was designed to show the need for a blanket application of the Buy National Section to preclude the chipping away by individual departments which they argued was occurring.

Their arguments were, at least this time, unsuccessful, for the FY 1979 GSA Appropriation Act did not expand the limited Buy American clause already in the previous year's act.¹⁰²

Conclusion

In summary, the lessons of this case study roughly parallel those of the MAG-58 study. In both cases, "high" policy interests won out and for the same reasons. Yet opponents of standardization policy were extremely successful in introducing a number of restrictions or hurdles along the way which guaranteed that the procurement process as it involved offsets with other countries will be clearly visible to all interested parties and, hence, subject to low political maneuvering. And, although the "high" policy won in both cases, it won only because the low interests were not in agreement; that is, the MAG-58 specialty metals cases were won not on their merits but because it was to the advantage of other low interests to sell them out. They were therefore not truly examples of the success of high over low policy but rather a battle between domestic (low) interests.

The Buy National Section of the Defense Appropriation Act now reaffirms the reporting requirements and, in fact, has added two more committees to the growing list which the law requires the

Department of Defense to inform of any standardization agreements or related procurements.

Nevertheless, the specialty metals provision was significantly weakened in 1977 from its original form. The reasons are similar to those pointed out earlier:

1. A small industry with little organized political support was involved;
2. The Army did not favor either side; in fact, specialty metal representatives saw the Army as hostile to their interests;
3. Other major industries were benefiting from the costs the specialty metals industry claimed it was bearing. Also, the specialty metals industry never convincingly showed it was being hurt; some noted that the offset agreements the industry claimed were hurting them were actually helping them significantly (especially in the F-16 sale).

To expand, the industry itself was not very organized. Only one company consistently supported the restrictions--Colt Industries. This lack of organization clearly hurt. Further, the industry was not communicating with the Department of Defense. On April 5, 1978, as the House Appropriations Committee prepared to hold hearings in response to industry requests, the Department testified that it was unaware ". . . that there was any problem or that anyone was requesting that the specialty metal exception be modified for Fiscal Year 1979."¹⁰³

Vertex Corporation saw this lack of cooperation as prolonging the conflict and misunderstanding between the two and, hence, leading the industry to irrationally continue to oppose the waivers:

. . . they are not convinced that their acquiescence in new or revised legislation in the hopes of future or continuing sales would be in their interest: first, because they do not necessarily foresee a large continuing foreign military sales program; and second, they are suspicious as to what the provisions of future offset agreements might be. This latter point is reinforced by the industry claim that communication between DOD and the specialty metals industry is almost non-existent. This situation they say does not lead to mutual trust and regard. As a result their spokesman told the authors that they would fight to keep any actual or potential advantage they now have (and the specialty metals clause is viewed as one of these) until a general understanding between the industry and the executive branch about the future of the U.S. metals industry can be reached.¹⁰⁴

As a result

. . . there was an appreciation for data showing the benefits offset agreements like the F-16 provided to the industry and the possible adverse impact which the clause might have on negotiating future offset agreements. However, as specific suggestions as to what might be fair changes in the Appropriations Act were proposed a "fortress psychology" attitude on the part of the industry emerged and in the end all proposed compromises were rejected.¹⁰⁵

The outcomes of this standoff are conflicting. On one hand, it caused the middle echelons of the Army to fail to support the industry, paving the way for pro-standardization forces to weaken the clause. On the other hand, the lack of satisfaction in the industry led it to continue to take action in support of a strong protectionist clause in many arenas (GSA, for example). A danger lies in continued actions of this type, especially should other specialty metals companies join Colt Industries and the lobby group

become broader and better organized. This, plus the fact that the "wheel" has to be "reinvented" every year¹⁰⁶ puts the advantage with the industry. Constant attention must be paid by high level officials to avoid further roadblocks to implementation being constructed or already developed aids to standardization from being destroyed. The need for this continued high level attention and the difficulties of sustaining it may ultimately limit standardization implementation.

One point should be highlighted again. The event that helped immensely in the final passage of the waiver was an action on the part of the industry. The clause had survived challenges for five consecutive years, including a major effort in 1976 (FY 1977 Appropriations Act). But when, after five years of industry claims that in spite of the relatively small defense market, cornering of contracts in that market was essential, the entire United States industry (including Colt's Crucible Steel)¹⁰⁷ failed to show any interest in responding to Fabrique Nationale's invitation for bids, their credibility was seriously damaged. Following the Army's waiver of the Specialty Metals Clause for the MAG-58 procurement because of this noninterest on the part of United States companies, the House and Senate both approved the Department of Defense's request for a broad waiver which now allows the Department to waive the clause without even first soliciting bids from United States companies if standardization is involved.

Thus, the industry helped cut their own throats by failing to substantiate the need for the broad restrictive clause. This, along with the suspicion and hostility which developed between the industry and the Department of Defense as a result of the long battle over the clause, will make it difficult for the industry to convince the Department of Defense as well as Congress as a whole¹⁰⁸ to remove the waiver. If real damage to the industry does occur, however, a broader and more organized industry lobby can be expected, one which might be powerful enough to overturn the waiver. The chances of this occurring are, however, unlikely. More likely is that the industry (to its surprise) will, as the Department of Defense has argued, find the offsets to their advantage.

Footnotes

¹The Specialty Metals Clause; See William C. Pettijohn and William C. Kruse, The Defense Appropriations Act Specialty Metals Clause Impact on Military Relationships with NATO and Other Friendly Nations, Report by the Vertex Corporation prepared for European/NATO Directorate, Office of the Assistant Secretary of Defense for International Security Affairs, Contract Number MDA 903-77-G-0143, July 1977, p. 2.

²U.S., Congress, General Accounting Office, Governmental Buy National Practices of the United States and Other Countries--An Assessment, Report to the Congress by the Comptroller General of the United States, Report ID-76-67, September 30, 1976, p. 56.

³Ibid., pp. 63-64.

⁴Ibid., pp. 53-55.

⁵Ibid., p. 63.

⁶See especially the following hearings: U.S., Congress, Senate, Committee on Armed Services, Essentiality of Specialty Steels to National Security, Hearings before the Subcommittee on General Legislation of the Committee on Armed Services, 92nd Cong., 2nd Sess., April 7, 1972; that committee's report, U.S., Congress, Senate, Committee on Armed Services, Essentiality of Specialty Steels Industry to National Security, Report of the Subcommittee on General Legislation of the Committee on Armed Services (Senate Report 92-804), 92nd Cong., 2nd Sess., May 25, 1972; U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriations for 1973, Hearings before a subcommittee of the Committee on Appropriations, House of Representatives, on H.R. 16593, 92nd Cong., 2nd Sess., part 8, May 11, 1972, pp. 333-355.

⁷Senate Armed Services Committee, Hearing on Specialty Steels, April 7, 1972, pp. 155-156; Senate Armed Services Committee, Report on Specialty Steels, May 25, 1972, p. 2; House Appropriation Committee, Hearings on the Department of Defense Appropriations for FY 1973, part 8, May 11, 1972, pp. 354-355, 347.

⁸Senate Armed Services Committee, Hearing on Specialty Steels, April 7, 1972, p. 159; House Appropriations Committee, Hearings on the Department of Defense Appropriations for FY 1973, part 8, May 11, 1972, pp. 339-340, 348-350.

⁹ Senate Armed Services Committee, Report on Specialty Steels, May 25, 1972, p. 5; House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1973, part 8, May 11, 1972, p. 335.

¹⁰ Mr. George Strichman, Chairman and Chief Executive Officer, Colt Industries, Inc., and its subsidiary Crucible Steel, in testimony before the House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1973, part 8, May 11, 1972, p. 335.

¹¹ Ibid., p. 354. However, the industry implied that this was likely to grow if something was not done.

¹² Senate Armed Services Committee, Hearings on Specialty Steels, April 7, 1972, pp. 164-166.

¹³ House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1973, part 8, May 11, 1972, pp. 350-351.

¹⁴ Ibid., p. 351.

¹⁵ Ibid., p. 339; statement of Mr. George Strichman, Chairman and Chief Executive Officer, Colt Industries, Inc.

¹⁶ Ibid., p. 346; letter from Mr. Shillito to Congressman George H. Mahon, Chairman of the House Appropriations Committee, June 8, 1972.

¹⁷ Senate Armed Services Committee, Report on Specialty Steels, p. 7; U.S., Congress, Senate, Committee on Armed Services, Authorizing Appropriations for Fiscal Year 1973 for Military Procurement, Research and Development, Construction Authorization for the Safeguard AFB, and Active Duty and Selected Reserve Strength, and for Other Purposes, Report to accompany H.S. 15495 (Senate Report 92-962), 92nd Cong., 2nd Sess., July 14, 1972, pp. 12-13 in which the recommendations in the earlier Senate Armed Services Committee report were attached to the report on the FY 1973 Appropriation Bill; U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriation Bill, 1973, Report to accompany HR 16593 (House Report 92-1389), 92nd Cong., 2nd Sess., September 11, 1972, p. 236.

¹⁸ See the comments during testimony before the House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1973, part 8, May 11, 1972, pp. 341.

¹⁹U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriation Bill, 1973, Report to accompany H.R. 16593 (Senate Report 92-1243), 92nd Cong., 2nd Sess., September 29, 1972, p. 8.

²⁰U.S., Congress, House of Representatives, Committee of Conference, Making Appropriations for the Department of Defense [for Fiscal Year 1973], Conference Report to accompany H.R. 16593 (House Report 92-1566), 92nd Cong., 2nd Sess., October 10, 1972, p. 20.

²¹Letter from Deputy Secretary of Defense William Clements to Congressman George H. Mahon, U.S. Congress, House of Representatives, Department of Defense Appropriations for 1974, Hearings before a subcommittee of the Committee on Appropriations, House of Representatives, on H.R. 11575, 93rd Cong., part 10, October 10, 1973, p. 895.

²²*Ibid.*, pp. 894-990.

²³*Ibid.*, pp. 920-921.

²⁴U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriation Bill, 1974, Report to accompany H.R. 11575 (House Report 93-662), 93rd Cong., 1st Sess., November 26, 1973, pp. 225-226. The Department of Defense had also addressed this upward trend but argued that it was not due to the Specialty Metals Clause, but rather due to increased worldwide commercial demand. See House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1974, part 10, October 10, 1973, p. 920.

²⁵House Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1975 (House Report 93-662), November 26, 1973, p. 226.

²⁶U.S., Congress, Department of Defense Appropriation Authorization Act, 1974, Public Law 93-155, 93rd Cong., 1st Sess., November 16, 1973. Both Houses added language supporting the Buy America Act during floor debate on the FY 1974 Appropriation Authorization Bill; U.S., Congress, House of Representatives, Congressional Record, 93rd Cong., 1st Sess., July 31, 1973, 119:26990, and U.S., Congress, Senate, Congressional Record, 93rd Cong., 1st Sess., September 21, 1973, 119:30896-30897. The Department of Defense found the Senate language less offensive; that amendment was adopted by the Conference Committee; U.S., Congress, House of Representatives, Committee of Conference, Authorizing Appropriations, Fiscal Year 1974, for Military Procurement, Research and Development, Active Duty, and Reserve Strength, Military Training Student Loads and for Other Purposes, Conference Report to accompany H.R. 9286 (House Report 93-588), 93rd Cong., 1st Sess., October 13, 1973, p. 48.

²⁷U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriation Bill, 1974, Report to accompany HR 11575 (Senate Report 93-617), 93rd Cong., 1st Sess., December 12, 1973, p. 26.

²⁸House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1975, part 9, June 13, 1974, pp. 6, 9-10, 17.

²⁹Ibid., part 8, May 30, 1974, p. 366.

³⁰U.S., Congress, House of Representatives, Committee on Appropriations, Department of Defense Appropriation Bill, 1975, Report to accompany HR 16243 (House Report 93-1255), 93rd Cong., 2nd Sess., August 1, 1974, p. 147.

³¹Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1975 (Senate Report 93-1104), August 16, 1974; p. 30. The Buy National clause was also repeated in the Fiscal Year 1975 Appropriation Authorization Act; this would be the second and last year it was included in the Authorization language. It may be that supporters of the Appropriation Bill's Specialty Metals Clause sought to give support to that clause by passing this (slightly) related clause in the Authorization language. See U.S., Congress, Department of Defense Appropriation Authorization Act, 1975, Public Law 93-365, 93rd Cong., 2nd Sess., August 5, 1974, and U.S., Congress, House of Representatives, Congressional Record, 93rd Cong., 2nd Sess., May 22, 1974, 120:16154-16155.

³²U.S., Congress, Department of Defense Appropriation Act, 1976, Public Law 94-212, 94th Cong., 1st Sess., February 9, 1976.

³³Testimony of Major General Richard C. Bowman, USAF, Director, European and NATO Affairs, Office of the Assistant Secretary of Defense for International Security Affairs, in Senate Armed Services Committee, Hearings on European Defense Cooperation, p. 156.

³⁴Senate Document 94-221, June 22, 1976, reprinted in U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., August 2, 1976, 122:S13096.

³⁵U.S., Congress, House of Representatives, Congressional Record, 94th Cong., 2nd Sess., June 17, 1976, 122:H.6136.

³⁶Ibid., p. H.6131.

³⁷Initiators were Congressmen Frenzel (R-MV) and Gibbons (D-FA); Ibid.

³⁸ Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1977 (Senate Report 94-1046), July 22, 1976, pp. 10, 265.

³⁹ U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., August 9, 1976, 122:S13954.

⁴⁰ Conference Report on the Department of Defense Appropriations for Fiscal Year 1977 (House Report 94-1475), September 3, 1976, pp. 45-46.

⁴¹ U.S., Congress, General Accounting Office, Decision of the Comptroller General of the United States, Matter of Maremont Corporation, File B-186276, August 20, 1976, p. 9, and Pettijohn and Kruse, The Defense Appropriations Act Specialty Metals Clause Impact, p. 8.

⁴² President's Budget amendment, Senate Document 94-221, June 22, 1976, reprinted in U.S., Congress, Senate, Congressional Record, 94th Cong., 2nd Sess., August 2, 1976, 122:S13096.

⁴³ Ibid., p. S13093.

⁴⁴ Ibid.

⁴⁵ Letter from Senator William D. Hathaway to President Gerald R. Ford, dated July 30, 1976, reprinted in Ibid., p. S13094.

⁴⁶ Ibid.

⁴⁷ Ibid., p. S13112.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ Ibid., p. S13113.

⁵¹ As the GAO noted in Decision of the Comptroller General, Matter of Maremont Corporation, File B-186276, p. 43.

⁵² I.e., that no waiver would be necessary. This was in response to Maremont's May 17 addendum; Pettijohn and Kruse, The Defense Appropriations Act Specialty Metals Clause, p. 8.

⁵³ Reprinted in Decision of the Comptroller General, Matter of Maremont Corporation, File B-186276, p. 44.

⁵⁴Ibid., pp. 44-45. See also the letter from the Department of the Army to the Comptroller General dated January 1, 1977, in which the Army reaffirms that they expect no problems due to substitutes, but that they will conduct thorough First Article testing and will continue to conduct comparison testing during production. Letter reprinted in Pettijohn and Kruse, The Defense Appropriations Act Specialty Metals Clause, pp. 53-54.

⁵⁵Pettijohn and Kruse, The Defense Appropriations Act Specialty Metals Clause, p. 9.

⁵⁶Ibid.

⁵⁷Mr. Allen Ahearn, Office of the Assistant Secretary of Defense, Manpower, Reserve Affairs and Logistics, interview in Washington, D.C., September 20, 1977; See also the letter from Fabrique Nationale to HQ ARCOM, Department of the Army, dated October 18, 1976, reprinted in Pettijohn and Kruse, The Defense Appropriations Act Specialty Metals Clause, pp. 51-52.

⁵⁸Letter from Fabrique Nationale to Department of Army, October 18, 1976, in Pettijohn and Kruse, The Defense Appropriations Act Specialty Metals Clause, pp. 51-52.

⁵⁹Pettijohn and Kruse, The Defense Appropriations Act Specialty Metals Clause, p. 9.

⁶⁰According to the Comptroller General, failure to contest grounds for first-use of waivers will often result in permission for future waivers on the same grounds for similar type procurements; Ibid., p. 10.

⁶¹Ibid., pp. 42-44.

⁶²Ibid., pp. 38-43.

⁶³Ibid. Ultimately DOD would choose not to use the Vertex version, probably because they already had their version safely through the House that year (June 30, 1977) by the time Vertex's report was completed (July, 1977). A testing of the winds probably indicated that the atmosphere was right for successful pursuit of the broader amendment. Failing that, DOD might very well have fallen back to the more limited Vertex recommendation.

⁶⁴Colt Industries had been the major force since 1972 in testimony before Congress supporting the Specialty Metals Clause.

⁶⁵House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1978, part 5, April 19, 1977, p. 280.

⁶⁶Ibid., statement of Mr. Vincent A. Callahan, President, Specialty Metals Division, Colt Industries.

⁶⁷Ibid., p. 281.

⁶⁸Ibid., pp. 286, 288; Testimony of Mr. John H. Kunsemiller, Acting Deputy Assistant Secretary of Defense for Procurement, Installations and Logistics.

⁶⁹Ibid., p. 287.

⁷⁰Ibid.

⁷¹Ibid. See also Pettijohn and Kruse, The Defense Appropriations Specialty Metals Clause, p. 16-19, for elaboration on this point.

⁷²Pettijohn and Kruse, The Defense Appropriations Specialty Metals Clause, p. 81.

⁷³Ibid., pp. 81-82.

⁷⁴Ibid., pp. 83-84.

⁷⁵Testimony before the Senate Appropriations Committee was identical to that before the House Committee. See U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriations for Fiscal Year 1978, Hearings before a subcommittee of the Committee on Appropriations, United States Senate, on HR 7933, 95th Cong., 1st Sess., part 6, March 31 and April 7, 1977, pp. 157-161, and 314-319. See also the Committee Reports: House Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1978 (House Report 95-451), June 21, 1977, p. 336, and Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1978 (Senate Report 95-325), July 1, 1977, p. 283.

⁷⁶U.S., Congress, Senate, Congressional Record, 95th Cong., 1st Sess., July 19, 1977, 122:S12318-S12319.

⁷⁷"The conferees agreed that such sale agreements should comply where applicable to both provisions of law rather than just the Defense Appropriation Authorization Act as provided by the Senate." U.S., Congress, House of Representatives, Committee of Conference, Department of Defense Appropriations for Fiscal Year

1978, Conference Report to accompany HR 7933 (House Report 95-565), 95th Cong., 1st Sess., August 4, 1977, p. 50.

⁷⁸ See, for example, the MOU with the British discussed above (pp 565-566) and discussed and attacked by Colt Industries below (pp. 570-571).

⁷⁹ U.S. Congress, Department of Defense Appropriation Act, 1978, Public Law 95-111, 95th Cong., 1st Sess., September 21, 1977, Section 823.

⁸⁰ These earlier amendments were largely redundant of the already existing Buy America Act, 41 U.S.C. 10a-d.

⁸¹ House Armed Services Committee, Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (House Report 95-1118), May 6, 1978, p. 117.

⁸² U.S., Congress, House, Congressional Record, 95th Cong., 2nd Sess., May 24, 1978, 124:H4558.

⁸³ Ibid., p. H4566.

⁸⁴ Ibid., 95th Cong., 1st Sess., June 30, 1977, 123:H6759.

⁸⁵ Ibid., September 8, 1977, 123:H9019.

⁸⁶ Ibid., 95th Cong., 2nd Sess., August 9, 1978, 124:H8144.

⁸⁷ Conference Report on the Department of Defense Authorization for Appropriations for Fiscal Year 1979 (House Report 95-1402), July 31, 1978, p. 57.

⁸⁸ No debate occurred on the House Floor over this part of the Conference Report: U.S., Congress, House of Representatives, Congressional Record, 95th Cong., 2nd Sess., August 4, 1978, 124: H7877-H7882.

⁸⁹ House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1979, part 8, April 20, 1978, pp. 143-146; paraphrased from testimony of Mr. Vincent A. Callahan, President of the Crucible Specialty Metals Division of Colt Industries, Inc.

⁹⁰ See Ibid., pp. 176-177 and 147-148 for the Determination and Findings in Support of the Buy American Act Exemption for the U.S./U.K. Memorandum of Understanding signed by the Secretary of Defense and specific invitations to bid on Specialty Metals issue by the Department of Defense in 1978 as provided and referred to by Mr. Callahan in his testimony.

⁹¹Ibid., p. 155.

⁹²Ibid., p. 24.

⁹³Ibid., pp. 26-27.

⁹⁴Ibid., p. 40.

⁹⁵U.S., Congress, Senate, Committee on Appropriations, Department of Defense Appropriations for Fiscal Year 1979, Hearings before a subcommittee of the Committee on Appropriations, United States Senate on HR 13635, 95th Cong., 2nd Sess., part 6, April 11-12, 1978, pp. 130, 179-218.

⁹⁶House Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (House Report 95-1398), July 27, 1978, p. 384, and Senate Appropriations Committee, Report on the Department of Defense Appropriations for Fiscal Year 1979 (Senate Report 95-1264), October 2, 1978, p. 206.

⁹⁷U.S., Congress, Department of Defense Appropriations Act, 1979, Public Law 95-457, 95th Cong., 2nd Sess., October 13, 1978, Section 824.

⁹⁸U.S., Congress, Department of Defense Appropriations Act, 1980, Public Law 96-154, 96th Cong., 1st Sess., December 21, 1979, Section 724.

⁹⁹Ibid.

¹⁰⁰U.S., Congress, Senate, Committee on Appropriations, Treasury, Postal Service and General Government Appropriations, Fiscal Year 1979, Hearings on HR 12930, 95th Cong., 2nd Sess., part 2, April 4, 1978, pp. 965-992.

¹⁰¹Ibid., pp. 974-975.

¹⁰²U.S., Congress, Treasury, Postal Service and General Government Appropriations Act, 1979, Public Law 95-429, 95th Cong., 2nd Sess., October 10, 1978. A restriction on purchases of stainless steel flatware had been added to the GSA Appropriation Act in 1976: U.S., Congress, Treasury, Postal Service and General Government Appropriations Act, 1977, Public Law 94-363, 94th Cong., 2nd Sess., July 14, 1976.

¹⁰³House Appropriations Committee, Hearings on the Department of Defense Appropriations for Fiscal Year 1979, part 8, April 5, 1978, pp. 26-27.

¹⁰⁴Pettijohn and Kruse, The Defense Appropriations Act Specialty Metals Clause, p. 39.

¹⁰⁵Ibid., p. 37.

¹⁰⁶The Appropriations Act provisions expire yearly and must be included in each year's Act if they are to remain in effect.

¹⁰⁷See the letter from Fabrique Nationale to Army (HQ ARMCOM) dated October 18, 1976, reprinted in Pettijohn and Kruse, The Defense Appropriations Act Specialty Metals Clause, p. 51.

¹⁰⁸Obviously many in the House and especially in the House Armed Services Committee are sympathetic to the industry, if only because of a general opposition to standardization.

CHAPTER X

CONCLUSIONS

A major theme throughout this work has been the differing motivations of the actors. For some, standardization has been what is referred to as a high political issue. Their concerns are with the military effectiveness of NATO and related macro-economic issues; i.e., getting the greatest military effectiveness for the least amount of defense expenditures within NATO as a whole. For others, however, the concern has focused on low political issues, those of domestic concerns; i.e., protection of domestic and local economic interests. As has been illustrated throughout, these two objectives are contradictory. Standardization with high political goals as an objective is best achieved through direct-purchase type arrangements--- both military effectiveness and macro-economic savings are thus achieved. Standardization with low political objectives primary would be pursued using other methods, which, as has been shown, largely fail to achieve the economic savings. Further, as many are now arguing, the military benefits might likewise be illusory. Nevertheless, for political reasons, the United States and NATO have opted to implement standardization through those methods associated with the low political objectives. The direct purchase approach is politically unacceptable to Europe for, although it would achieve the high political goals, it means more of the same: continued

European purchases of United States equipment. On the other hand, however, the alternative approaches, while capable of achieving various degrees of "standardization," do not meet the high political goal of achieving maximum military effectiveness nor macro-cost savings, both of which are, in theory, the ultimate purposes for standardizing.

This dilemma illuminates what for the Europeans is the hidden agenda behind the current emphasis on standardization. That is, it is an attempt to gain a larger share of the NATO defense market. For the Europeans, then, the goals of standardization are low political ones; standardization itself (military effectiveness and cost savings) is not the important issue and is really a cover for other goals (low, or domestic economic interests). However, recognizing that achieving any degree of standardization all requires European cooperation, the United States government has opted to pursue a goal which for the United States is a high policy one using techniques which are geared to satisfy low policy objectives (the Europeans' goals). While this a logical political compromise, under it any significant degree of standardization is unachievable unless: (a) the political systems responsible for implementing low policy decisions can be dramatically altered; or (b) the international environment changes drastically, thus elevating standardization in the eyes of all involved to a high policy objective, with pursuit of military effectiveness and cost savings as the primary goals of all the actors.

That direct purchase agreements are virtually impossible to use illustrates the low or decentralized nature of weapons procurement issues. The alternative means of cooperation in procurement recognize the low nature and are attempts to work within that arena, achieving some degree of standardization while satisfying domestic interests. Nevertheless, as long as the decision-making structure within each country, especially within the United States, remains as it is (i.e., largely decentralized, at least regarding low political issues such as weapons procurements), nationalistic preferences and prejudices will mitigate against the success of any of these approaches. As long as domestic sacrifices, real or perceived, are required by any country, and as long as national decision-making processes are decentralized and susceptible to low political pressures (the sub-government phenomenon in the United States), any significant implementation of standardization policy will be impossible. This is especially true in the United States where: (a) the greatest sacrifices are involved in the call to standardize; and (b) where the United States' Congress will not delegate to the Executive Branch its authority and control over weapon procurement decisions.

The only alternative then is to attempt to alter the policy issue itself. Weapons procurement decisions, although part of a high policy (non-distributive security policy) are themselves inherently low policy issues (i.e., distributive issues). If

standardization is to be successful, weapons procurement issues will have to be changed into strategic/redistributive issues. Those interests who would lose as a result (the sub-governments) will resist this transformation and, as the case studies have illustrated, will generally be successful. Again, barring a major change in the international environment, weapons procurement decisions will continue to be low policy issues.

Turning to the case studies, the XM-1 study clearly illustrates the successful defense by a sub-government of its prerogatives over a weapons procurement issue. In spite of intense efforts by the Executive Branch to redefine the issue as high policy, the sub-government was successful in fighting off challenge after challenge. The chief source of resistance was a small subcommittee within the House Armed Services Committee, headed by that committee's tank expert, Representative Sam Stratton (D-NY). Nevertheless, the entire House Armed Services Committee and the House as a whole consistently closed ranks around and supported Stratton. The norms of specialization and respect for expertise assure continuing success within the House in fighting off attempts to challenge the authority of the sub-governments.

The Roland study is an example of mixed success. The United States has purchased and is building the Roland missile. Nevertheless, the battle was a long and hard one, in spite of the absence within the United States' arsenal of any serious competitor to the

three competing European missile systems. The House clearly preferred a weak domestic option (the Chapparral) in spite of a clear and strong lead by the Europeans in both technology and time. Ultimately the constant attacks (largely from the House) along with unwarranted over-enthusiasm on the part of the United States government and contractors led to a significantly reduced United States procurement of the missile and, ironically, a direct purchase instead of one of the original competitors, the British Rapier system. While the direct purchase of the Rapier would seem to contradict earlier predictions of the death of direct purchases, further examination of that purchase shows it to be part of a "business as usual" approach to weapons purchases. While defined as a standardization program, it has had no significant impact on NATO standardization at all. Only 28 units are to be purchased, all to be located around United States' bases in England and manned by the British. If anything, it further complicates the United States' logistics problem by adding a third short-range missile system to the United States' inventory. In reality, the Rapier was purchased not to advance standardization; rather, it was part of a quid-pro-quo package designed to partially offset the British purchase of the United States' Trident Missile. It was a \$300 million sacrifice to secure a \$2.5 billion sale.¹ After fighting Roland tooth and nail (in spite of the fact that it was to be produced in the United States, thus minimizing the effect on employment), Congress (the House) did not raise any serious challenges to the purchase of the Rapier even though it actually

cost the United States jobs because of the reduced buy of Roland which went with it. In this case, one particular sub-government was sacrificed to larger domestic interests.

Thus, the lesson with Roland is that when dealing with standardization packages in which a United States designed system is in competition with a foreign designed system, the Congress will strongly resist the foreign system even if the foreign system is technologically superior and well advanced in time and even though employment impact is minimal. However, a domestic system (which the Roland in a sense had become by this time) will be sacrificed to a foreign competitor if it is part of a larger package deal and its sacrifice locks in a larger sale of United States equipment. Standardization concerns are clearly minimal in these package arrangements as the Rapier buy illustrates.

The MAG-58 case illustrates the same lesson. Purchase of the Belgian MAG-58 machine gun over the United States made M60E2 was minimally influenced by standardization concerns (see my arguments in Chapter VIII regarding its impact on standardization). Rather, in spite of official denials to the contrary, it was part of the F-16 package, designed to influence the Belgian decision on the F-16. However, because it was cast as a standardization issue, the Maine congressional delegation was given free rein to attack it politically, thus tying it up in the courts for a lengthy period. Had DOD linked it to the F-16 purchase and sought to include Maine's Maremont Corporation into the package and bring the Maine congressional

delegation into the deal, a significant political battle could probably have been avoided. However, hanging alone as it was, it was fair game for the politics of the low policy arena.

The Specialty Metals (Chapter IX) and Standardization Policy Language (end of Chapter IV) case studies are excellent illustrations of the low-high dichotomy at work. Since no specific system was at stake in either, the debate developed along philosophical lines. The House, most susceptible to low policy interests, consistently opposed the standardization policy language and the waiver of the Specialty Metals Clause. The Senate, more in tune with high policy concerns, consistently opposed the House, supporting both. This is as the theoretical framework developed as Chapter III predicts. No significant changes to this basic pattern are likely, especially for the House. Domestic interests and low issues will continue to receive primary emphasis there. The Senate, as a whole, will continue to be more supportive of the high policy goals of military effectiveness and cost savings and will be more willing than the House to make the sacrifices which implementation of standardization policy will require.

However, the recent national election has changed this situation somewhat, as it modified more than the philosophical make-up of the Senate. The new Republican majority in the Senate Armed Services Committee has completely modified the subcommittee structure. Previously a weapons system first surfaced before the Senate Armed Services Committee's subcommittee on research and development. That

subcommittee had traditionally been totally supportive of standardization (Senators Nunn, Culver, and McIntyre being the driving forces). From there, it went to the procurement subcommittee which, although critical of at least one standardization program (the Roland) became involved too far down the road to seriously challenge any system (Senators Harry Byrd, Thurmond and Goldwater were all hostile to the Roland). The Republican majority in the new 97th Congress did away with the development stage subcommittee structure, substituting instead functional subcommittees.² Rather than monitor a program first in the research and development subcommittee and then in the procurement subcommittee, a single subcommittee now monitors a system through its entire life cycle. Most standardization programs, being of a conventional nature, will come under the purview of the subcommittee on Tactical Warfare, headed now by Senator Goldwater with Senators Thurmond and Byrd key members. Senators McIntyre and Culver are gone from the Senate and the only subcommittee which Senator Nunn sits on with any responsibility over standardization is the subcommittee on Sea Power and Force Projection.³

The restructured Senate Armed Services Committee thus throws standardization programs almost exclusively to a subcommittee, three members of which have opposed at least one major standardization program (see the Roland case study) and headed by Senator Barry Goldwater (R-AZ) who has adamantly opposed standardization in the past.⁴ That Goldwater's opposition continues was reinforced in an interview in April of 1981 with Mr. Robert Blackwill, Principal Deputy

to the Director of the Bureau of Political-Military Affairs, United States Department of State. Mr. Blackwill noted that the support which had existed in the Senate Armed Services Committee had undergone significant change which in large part was attributable to Senator Goldwater's new position of power.⁵ While the Senate Armed Services Committee and the Senate as a whole may still be supportive of standardization, the decentralized, specialized nature of even that body means that the subcommittee which has primary responsibility for a program can significantly shape the program to its desires. This bodes poorly for standardization programs in the future.

Where does this leave the standardization issue then? Clearly one point stands out: the best prospects for successful rationalization in NATO exist at the level of interoperability. Accordingly, the majority of the NATO and DOD efforts, although not the most publicized, are taking place at this level. Dr. Malcolm R. Currie, Director of Defense Research and Engineering emphasized this point:

In terms of NATO forces effectiveness, the standardization/interoperability payoff is great. However, we are still finding our way in this endeavor, and realize that some of our prior notions need revision. For example, it is now clear that the largest immediate payoff in NATO forces effectiveness is not in standardized major weapons systems but in such things as ammunition, bomb racks, communications, doctrine, procedures, training, and logistics support. We are placing increased emphasis on these short-term objectives.⁶

Currie, in effect, is arguing for a stronger focus on interoperability rather than on standardization.

At the very least, the growing concern with standardization has caused NATO members to look at the problem really carefully for

the first time. In many cases, no data was available on what systems were or were not interoperable; that is, no attempt had been made to document what munitions or ammunition was compatible with which aircraft, which fuels or fuel nozzles were common, which airfields could service which aircraft, etc. As the DOD Second Report to Congress on Rationalization/Standardization shows, significant progress has been made in this area.⁷

Progress in standardization at this level is politically possible primarily because it poses no threat to any member of the sub-government structure. Domestic industry is not challenged by it and may indeed benefit by new requirements. No significant threat to the military services is posed by the rather simple changes required. Hence, pressures on the committees and subcommittees and on individual congressmen are unlikely to develop.

However, as noted in the introduction, the logic inherent in standardization has created intense pressures on governments to pursue full standardization as a policy goal. As elaborated on extensively, the threats posed by attempts at total standardization of major weapon systems are clear. While the DOD position, calling for joint production on both sides of the Atlantic through licensing arrangements, is potentially diffusing, numerous problems still remain. As long as domestic interests perceive a threat from standardization, challenges such as occurred with the Belgian machine gun purchase (led by the Maine congressional delegation) will be the rule, effectively tying up procurement actions and blocking

standardization. The Army experience with the Roland illustrates another problem. The Americanization of the Roland has encountered numerous problems and cost overruns. While this can be understood given the lack of previous experience in "Americanizing" a system of this complexity, it is tending to become a rallying point in the services, industry and Congress against future purchases of major foreign systems. Had one wished to create a negative environment for future endeavors of this nature, it would have been difficult to do as much harm deliberately as the Army and Hughes Aircraft Company (and Boeing) have done unintentionally with the Roland.

The major problem for standardization is that, with the continued emphasis on standardization as a policy goal (even if only lip service is paid to it), all programs pursued under the cloak of standardization will be challenged by low policy interests in a "knee-jerk" opposition to standardization in general based in part on fear of where it might lead. As a result, many projects which are not a challenge to domestic interests (largely those focusing on interoperability--the German 120-mm gun is a good example) will be damaged because of their association with standardization. In the process, the focus on standardization, because of the opposition it creates, may ironically hurt many projects which could significantly improve NATO's defense capabilities without challenging domestic interests.

In sum, then, the future for standardization is bleak. As noted earlier in discussing the problem of interdependence, the

unwillingness or inability of developed nations to create structures or institutions within which issues of interdependence, with standardization being an ideal example, can be routinely handled makes any systematic progress highly unlikely. Rather, ad hoc, one-for-one projects will likely be the rule. This will require that the costs and benefits of each individual project be carefully balanced between nations, further complicating the process (as opposed to long-term balancing over many projects and long periods of time). The clash of low with high politics, when it requires or is manifested in attempts to take advantage of the potential benefits of interdependence without sacrificing elements of national sovereignty, will preclude any significant progress towards long-term rationalization of defense cooperation.

Footnotes

¹Henry S. Bradsher, "U.S. to supply Trident I Missiles to Modernize N-Force," Washington Star, July 16, 1980, p. 9.

²"Senate Armed Services Panels Restructured," Air Force Times, January 5, 1981.

³U.S., Department of Defense, Congressional Committees and Related Information, 97th Congress, Office of the Secretary of the Air Force, Office of Legislative Liaison, April, 1981.

⁴Mr. Robert Old, Staff Member, Senate Armed Services Committee, primarily working for Senator Goldwater, interview in Washington, D.C., September 23, 1977.

⁵Mr. Robert Blackwill, Principal Deputy to the Director of the Bureau of Political-Military Affairs, U.S. Department of State, interview, United States Air Force Academy, April 29, 1981.

⁶Senate Armed Services Committee, Hearing on European Defense Cooperation, p. 25.

⁷Ibid., pp. 36-48; especially pp. 41-43.

APPENDIX 1

GLOSSARY OF ACRONYMS

ASARC	Army Systems Acquisition Review Council
ASPR	Armed Services Procurement Regulation
ATGM	Anti-Tank Guided Missiles
AWACS	Airborne Warning and Control System
CBW	Chemical and Biological Warfare
CNAD	Conference of National Armaments Directors (NATO)
CODSIA	Council of Defense and Space Industry Association
COEA	Cost and Operational Effectiveness Analysis
DARCOM	Army Material Development and Readiness Command
DAS	Defense Audit Service
DCP	Decision Coordinating Paper
DDR&E	Director of Defense Research and Engineering/ Under Secretary of Defense for Research and Engineering
DOD	Department of Defense
DPC	Defense Production Committee (NATO)
DSARC	Defense Systems Acquisition Review Council
ECCM	Electronic Counter-Counter Measures
EPG	European Program Group (later IEPG:Independent- European Program Group)
Eurogroup	European Members of NATO (European Group) less France, Portugal, and Iceland
Euronad	European National Armaments Directors
FLIR	Forward Looking Infrared (thermal imaging device)
FN	Fabrique Nationale (Belgian manufacturer of the MAG-58 machine gun)
FOW	Family of Weapons
FRG	Federal Republic of Germany

FSED	Full-Scale Engineering Development
FY	Fiscal Year
GAO	General Accounting Office
GSA	General Services Administration
IEPG	Independent European Program Group
IFF	Identification Friend or Foe
IOC	Initial Operational Capability
ISA	International Security Affairs/Assistant Secretary of Defense for International Security Affairs
LRPA	Long-Range Patrol Aircraft
LTDP	Long-Term Defense Program (NATO)
MAS	Military Agency for Standardization (NATO)
MBT	Main Battle Tank
MENS	Mission Element Need Statement
MOU	Memorandum of Understanding
MRBF	Mean Rounds Between Failure
MRBS	Mean Rounds Between Stoppage
MRCA	Multi-Role Combat Aircraft (Tornado) developed by Germany, Britain, and Italy
NAPR	NATO Armaments Planning Review
NATO	North Atlantic Treaty Organization
NBMR	NATO Basic Military Requirement
NIAG	NATO Industrial Advisory Group
OJCS	Office of the Joint Chiefs of Staff
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
PA&E	Program Analysis and Evaluation/Assistant Secretary of Defense for Program Analysis and Evaluation
PAPS	Periodic Armaments Planning System (NATO)
R&D	Research and Development
RDT&E	Research, Development, Test, and Evaluation
RFP	Request for Proposal

ROC	Required Operational Capability
RSI	Rationalization, Standardization and Interoperability
RSI Subcommittee	The House Armed Services Committee's Special Subcommittee on NATO Standardization, Interoperability and Readiness, established during the 85th Congress
SHORAD	Short-Range Air Defense
STANAGS	Standardization Agreements
TAD	Trans-Atlantic Dialogue
TRADOC	U.S. Army Training and Doctrine Command
USAF	United States Air Force
USA	United States Army
WEU	Western European Union

APPENDIX 2

GLOSSARY OF KEY ACTORS AND OTHER INDIVIDUALS NOTED
IN THE TEXT AND POSITION(S) HELD

Alexander, Clifford L.	Secretary of the Army, February 1977 to January 1981
Augustine, Norman R.	Assistant Secretary of the Army for Research and Development, September 1973 to May 1975
Babers, Donald M., Brig Gen, USA	Project Manager, XM-1 Tank, July 1977 to present
Baer, Robert J., Maj Gen, USA	Project Manager, XM-1 Tank, September 1972 to June 1977
Bartlett, Dewey F.	U.S. Senator, R-OK, member, Senate Armed Services Committee, Subcommittee on Manpower and Personnel
Basil, Robert A.	Assistant Director for International Programs, Office of the Director for Defense Research and Engineering, March 1971 to December 1977
Battista, Anthony R.	Professional staff member, House Armed Services Committee
Bowman, Richard C., Maj Gen, USAF	- Deputy Defense Advisor to the United States Ambassador to NATO, 1973-1975 - Director, European and NATO Affairs, Office of the Assistant Secretary of Defense for International Security Affairs, 1975 to present
Brickel, James R., Maj Gen, USAF	Assistant Deputy Chief of Staff, USAF, for Research, Development and Acquisition, 1978-1981
Brooks, Jack	U.S. Congressman, D-TX, Chairman of House Committee on Government Operations and the Subcommittee on Legislation and National Security

Brown, Harold	Secretary of Defense, January 1977 to January 1981
Bronman, Harold L.	Assistant Secretary of the Army for Installations and Logistics, October 1974 to December 1976
Byrd, Harry F., Jr.	U.S. Senator, I-VA, member of Senate Armed Services Committee
Callaghan, Thomas A., Jr.	Director, Allied Interdependence Project, Center for Strategic and International Studies, Georgetown University
Callahan, Vincent A.	President, Specialty Metals Division, Colt Industries, Inc.
Callaway, Howard H.	Secretary of the Army, May 1973 to July 1975
Clements, William P.	Deputy Secretary of Defense, February 1973 to January 1977
Cohen, William S.	U.S. Congressman, R-ME, now Senator, member of Senate Armed Services Committee
Cooksey, Howard H., Gen, USA	Deputy Chief of Staff of the Army for Research, Development and Acquisition, 1975-1977
Culver, John C.	U.S. Senator, D-IA, member of Senate Armed Services Committee; Chairman of the subcommittee on research and development following Senator McIntyre
Currie, Malcolm R.	<ul style="list-style-type: none"> - Corporate Vice-President of Hughes Aircraft Company, prior to 1973 - Director of Defense Research and Engineering, 1973-1977 - Vice President for Missile Systems, Hughes Aircraft Company, 1977 to present
Deane, John R., Lt Gen, USA	Chief of the Research and Development Office, U.S. Army, 1973-1975 (Office was the predecessor to the Office of the Deputy Chief of Staff for Research, Development and Acquisition)

Dickinson, William L.	U.S. Congressman, R-AL, member of subcommittee on Research and Development, House Armed Services Committee
Duncan, Charles W.	Deputy Secretary of Defense, January 1977 to January 1978
Eberhard, Hans L.	Director of Research, West German Defense Ministry
Edgington, Walter R.	Chairman, Export-Import Committee for Government Division of the Electronics Industries Association
Edwards, Jack	U.S. Congressman, R-AL, member of House Appropriations Committee, subcommittee on Defense
Emery, David F.	U.S. Congressman, R-ME
Feir, Philip R., Gen, USA	Assistant Deputy Chief of Staff of the Army for Research and Acquisition, 1975-1978
Fettig, Lester A.	Administrator for Federal Procurement Policy, Office of Management and Budget
Fine, Hyman	- Professional Staff Member, Senate Armed Services Committee, subcommittee on Research and Development, 1969-1977 - U.S. Representative for Euro-missile, 1977 to present
Fish, Howard, Lt Gen, USAF	Director of the Defense Security Assistance Agency
Ford, John J.	Staff Director, House Armed Services Committee
Frost, Ellen L.	Deputy Assistant Secretary of Defense for International Economic Affairs, Office of the Assistant Secretary of Defense for International Security Affairs, 1977-1981
Genscher, Hans Dietrich	West German Minister of Foreign Affairs
Gialimo, Robert N.	U.S. Congressman, D-CT, member House Appropriations Committee, subcommittee on Defense

Goldwater, Barry	U.S. Senator, R-AZ, member Senate Armed Services Committee, subcommittee on General Procurement. Now (1981) Chairman of the Subcommittee on Tactical Warfare
Hahn, Thomas S.	Counsel to the Special Subcommittee on NATO Standardization, Interoperability and Readiness, House Armed Services Committee
Hathaway, William D.	U.S. Senator, D-ME
Hillis, Elwood H.	U.S. Congressman, R-IN, member House Armed Services Committee and XM-1 Tank Panel
Hoffmann, Martin R.	Secretary of the Army, August 1975 to January 1977
Ichord, Richard H.	U.S. Congressman, D-MO, member of Senate Armed Services Committee, Chairman of subcommittee on Research and Development following Senator Culver
Jackson, Henry M.	U.S. Senator, D-WA, member of Senate Armed Services Committee
Keith, Donald R., Lt Gen, USA	Deputy Chief of Staff of the Army for Research, Development and Acquisition, 1978 to present
Kerwin, Walter T., Jr., Gen, USA	Army Vice Chief of Staff, 1974-1978
Koehler, John J., Maj Gen, USA	Commanding General of the U.S. Army Air Defense Center, Fort Bliss, TX
Komer, Robert W.	<ul style="list-style-type: none"> - Consultant to the RAND Corporation - Special Consultant to the Secretary of Defense on NATO Affairs, 1977 - Advisor to the Secretary and Deputy Secretary of Defense for NATO Affairs, September 1977 to August 1979 - Under Secretary of Defense for Policy, August 1979 to January 1981

LaBerge, Walter B.

- Assistant Secretary of the Air Force for Research and Development, 1973-1976
- Assistant Secretary General of NATO for Defense Support, 1976-1977
- Under Secretary of the Army, July 1977 to September 1979
- Principal Deputy to the Under Secretary of Defense for Research and Engineering, September 1979 to June 1981

Lax, Joe, Brig Gen, USA

Project Manager for the Roland Missile

Leber, Georg

West German Minister of Defense

Luns, Joseph M.A.H.

Secretary General of NATO, 1971-

Mann, Siegfried

Director of Development, West German Defense Ministry

McIntyre, Thomas J.

U.S. Senator, D-NH, Chairman of the subcommittee on Research and Development, Senate Armed Services Committee

Magill, Henry F., Col, USA

Project Manager, SHORAD

Mahon, George H.

U.S. Congressman, D-TX, Chairman, House Appropriations Committee

Miller, Edward A.

Assistant Secretary of the Army for Research and Development, November 1975 to May 1977

Muskie, Edmund S.

U.S. Senator, D-ME

Nunn, Sam

U.S. Senator, D-GA, member of Senate Armed Services, Chairman of subcommittee on manpower and personnel

Packard, David

Deputy Secretary of Defense, 1969-1971

Parker, Robert N.

- Principal Deputy Director of Defense Research and Engineering, August 1973 to June 1977
- Acting Director, DDR&E, January to June 1977

Perry, William

Under Secretary of Defense for Research and Engineering, April 1977 to January 1981

Pierre, Percy A.	Assistant Secretary of the Army for Research, Development and Acquisition (formerly Research and Development), June 1977 to January 1981
Polk, James H., Gen, USA (Ret)	Commander in Chief, U.S. Army in Europe and Seventh Army, 1966-1971
Port, A. Tyler	Assistant Secretary General of NATO for Defense Support, 1967-1973
Price, Melvin	U.S. Congressman, D-IL, Chairman, House Armed Services Committee
Rumsfeld, Donald H.	Secretary of Defense, November 1975 to January 1977
Schlesinger, James R.	Secretary of Defense, July 1973 to November 1975
Schrontz, Frank	Assistant Secretary of the Air Force for Installations and Logistics, October 1973 to February 1976
Shields, Roger	Vice-President, Chemical Bank of New York
Shillito, Barry J.	Assistant Secretary of Defense for Installations and Logistics, February 1969 to June 1973
Sikes, Robert L.F. (Bob)	U.S. Congressman, D-FL, member of House Appropriations Committee, subcommittee on Defense
Stennis, John C.	U.S. Senator, D-MS, Chairman, Senate Armed Services Committee (to 1981) and Chairman, Subcommittee on the Department of the Defense, Senate Appropriations Committee (to 1981)
Stevenson, Charles A.	Legislative Assistant for Defense and Foreign Policy, Senator John Culver, D-IA
Stratton, Samuel S.	U.S. Congressman, D-NY, Chairman, subcommittee on investigations and XM-1 tank panel, House Armed Services Committee
Taft, Robert, Jr.	U.S. Senator, R-OH, member of subcommittee on Research and Development, Senate Armed Services Committee

APPENDIX 3

OVERVIEW OF TANK STANDARDIZATION

ATTEMPTS

A. Overview of Standardization Attempts

1. First United States/German attempt: 1957 (with French)
2. Second United States/German attempt: 1963-1970 (MBT-70)
3. Third United States/German attempt: 1974- (XM-1/Leopard)

B. Summary of Significant Events, XM-1/Leopard II

1. Memorandum of Understanding: December 12, 1974
2. Addendum 1 to MOU: August 4, 1976 (second draft; first draft was killed by the Army with the help of the Deputy Secretary of Defense, William Clements)
 - Addendum deferred the decision from July 22, 1976 (General Motors appears to have been the winner) to November 1976 (Chrysler won)
 - Competition was still on, but the two countries would also seek to assure commonality of major pieces of equipment (engine and gun primarily)
3. Addition to Addendum to MOU: January 12, 1977
 - Extended gun competition to December 30, 1977. (but only on part of the United States; Germany was free to go ahead with its own 120 mm gun)
 - Ended competition between the United States and German tanks
 - Compare only the subsystems listed in Addendum 1
 - March 1977: Army started criticism of Leopard II to justify their reluctance to select it
4. Joint Agreement: May 19, 1977
 - Reemphasized commonality
 - Apology to Germany by the United States for criticism of Leopard II

C. Gun Memorandum of Understanding

1. Original Tripartite Agreement (United States, Germany, Britain)
 - Agreement to enter competition: March 1974

- Competition: late 1975 (United States, 105 mm; Britain, 110 mm; Germany, 120 mm)
- Decision: January-March 1976: mixed decision. The 105 mm was seen as best for short-term but the 120 mm was seen as needed in the long-term.
- Result: The United States went with its 105 mm, Germany went with their 120 mm smoothbore, and the British began development of a 120 mm rifled bore.
- 2. United States/British MOU: July 14, 1976
 - The United States agreed to test the new British 120 mm gun which was to be available in March of 1977
- 3. United States/German Addendum 1 to MOU: August 4, 1976
 - Formalized the agreement to standardize on a 105 mm or 120 mm gun. Allowed for the possibility of selecting the British 120 mm gun, although this was not explicit in the Addendum. A decision was to be reached by January 15, 1977; interestingly, the British gun would not yet be available.
- 4. Addition to Addendum: January 12, 1977
 - Extended the gun decision date to December 30, 1977 to allow testing of the British gun; but only for the United States. Germany was free to go ahead with their decision without waiting for the British gun. In effect, this meant Germany would go with their own 120 mm. The United States was still committed to comparing all three guns.
- 5. Decision: The United States selected the German 120 mm gun. The XM-1 was to carry this gun although the first 1500 or so would be initially fitted with the United States' 105 gun, with the possibility of later conversion to the 120.

D. Significant Dates

1. Decision on tanks: November 12, 1976 (Chrysler won)
2. Decision on gun: January 31, 1978 (the German 120 mm won)

APPENDIX 4

MAG-58 CHRONOLOGY

Chronology by Groups
of Actions

I. General:

April 1975: MAG-58, a Belgian machine gun, is introduced as a competitor for the Army's new armored machine gun; front runner up to this point was Maremont Corporation's M60E2, which was produced in Saco, Maine.

II. GAO Investigation #1:

August 7, 1975: Senator Muskie (D-ME) requested the General Accounting Office to oversee the competitive testing of the two machine guns. He accuses Army/DOD of an under-the-table deal which will result in massive unemployment in Maine. GAO report issued March 23, 1976 declares evaluation to be generally fair--found no evidence of a "deal."

III. a. Congress: Rumsfeld's nomination as Secretary of Defense:

During the hearings on November 12-13, 1975 Senator Muskie introduces a number of questions dealing with the role of the F-16 in the decision and attempts to elicit from Rumsfeld (without success) a response favorable to Maremont.

b. Congress: FY 1977 Authorization Act:

1. In early 1976, just weeks before the Army decision

was expected (rumors were already rampant that the MAG-58 had won), Muskie submitted a number of pointed questions to the Army during the Senate Armed Services Committee hearings on the FY 1977 Authorization Bill.

2. Conflicting demands were being made on DOD and the Army by various groups of Senators. A number in the Senate Armed Services Committee (led by Nunn probably) were backing the MAG-58 and wrote Rumsfeld supporting it. Muskie also wrote Rumsfeld challenging the other group of Senators and supporting the Maremont gun.
3. March 29, 1976: Army decides to go with the MAG-58.
4. May 24, 1976: Muskie and Hathaway begin a challenge to the standardization policy language in the FY 1977 Authorization Bill. The challenge was launched on the Senate floor and would have virtually gutted the spirit of the standardization amendments by making cost a dominant factor, and by requiring reports to Congress 30 days prior to any agreements with foreign countries to purchase equipment as part of an offset. Muskie and Hathaway compromised after two days with an amendment which required only that the Secretary of Defense report all offset agreements to Congress within 30 days after the agreement was reached. An additional colloquy between Culver, Muskie and Hathaway clarified that the

standardization policy amendment would not be retroactive. This precluded the M60E2/MAG-58 issue from coming under the more lenient rules which would have favored procurement of the Belgian gun. (The new amendment gave the Secretary of Defense the authority to waive the Buy America provisions by determining that United States purchase--vice purchase in Europe to advance standardization--is not in the public interest.)

5. June 25, 1976: Conference Committee amended standardization language in the Authorization Act to require the Secretary to take into "consideration cost, function, quality and availability of equipment" purchased under the standardization policy.
 6. June 30, 1976: Debate on the House and Senate floors over House conference amendment to standardization amendment which required consideration of costs. The House, led by Congressman Cohen of Maine argued that the cost restriction limited also the authority to waive the Buy America Act, a position which favored the Maine gun; the Senate argued that it did not. Muskie again joined the colloquy on the Senate floor to reaffirm that the amendment was not retroactive.
- c. Congress: International Security Assistance Program legislation:

1. June 11, 1976: Hathaway amendment to the International Security Assistance and Arms Export Control Act for 1976 required that the Secretary of Defense furnish to the Foreign Relations Committee and the Speaker of the House Committee on International Relations additional information on the impact on domestic producers of all quid-pro-quo standardization agreements (to include purchases as well as sales). The original bill required only that the Secretary inform the Committee of any sales of defense equipment worth over a certain amount.
 2. June 15, 1977: Hathaway amendment to the International Security Assistance Act of 1977 added new reporting requirements for the Secretary of Defense. Essentially the amendment was the same as the 1976 amendment but applied to a new bill which tasked the Secretary with preparing a report on all arms sales since 1972. Hathaway amendment required that the report also include impact analyses of the effect on domestic producers of purchases of foreign made equipment resulting from any quid-pro-quo agreements since 1972 (i.e., the MAG-58/F-16 "deal").
- d. Congress: FY 1977 Appropriations:
1. March 29, 1976: Army MAG-58 decision.
 2. June 17, 1976: The House members from Maine attack,

on the floor, the FY 1977 Appropriations line item appropriating \$15.1 million to buy machine guns (money to buy whatever gun ultimately is chosen). In spite of extensive debate, the amendment to delete the funds lost.

3. July 22, 1976: The Senate Appropriations Committee favorably reported the \$15.1 million but qualified it as dependent on the pending GAO review (which the District Court had already done).
4. September 3, 1976: Conference Committee reports the \$15.1 million as qualified for machine gun procurement.

e. Congress: FY 1976 Reprogramming:

July 28, 1976: Senator Hathaway challenged, in the Senate Appropriations Committee, the reprogramming of \$5.9 million for purchase of machine guns during the remainder of FY 1976. He sought to (a) kill the funds or, (b) to qualify the funds as contingent on the GAO decision (which, again, the District Court had already done). Apparently he succeeded in killing the reprogramming as there is no evidence that any of the other three committees which would have to approve it ever held hearings (the House and Senate Armed Services Committees and the House Appropriations Committee).

IV. Court/GAO Actions:

- a. March 29, 1976: Army MAG-58 decision.
- b. April 7, 1976: Maremont filed protest with the GAO.
- c. May 19, 1976: Maremont/Maine delegation brought suit in District Court to enjoin the Army from awarding the contract to Fabrique Nationale.
- d. Late May/early June: Originally the hearing was set for this period, but by agreement with the Army and Maremont, it was moved back to July 1; the Army agreed to take no action until the court decision or until July 7, whichever came first.
- e. July 1, 1976: Court issued preliminary injunction enjoining Army from awarding the contract until five days after the GAO decision.
- f. August 20, 1976: GAO decision goes against Maremont.
- g. August 25, 1976: Preliminary injunction expires; no further court action by Maremont.

Chronology by Events

April 1975: Maremont Corporation, a machine gun manufacturer with a factory in Saco, Maine, the frontrunner in competition for the new Army machine gun, receives competition from a Belgian gun, the MAG-58. Allegations spread that the United States will buy the Belgian gun as part of a

deal to convince the Belgians to buy the United States F-16 fighter aircraft.

- August 7, 1975: Senator Muskie (D-ME) requests the General Accounting Office to investigate the competition. He accuses Army/DOD of an under-the-table deal which will cause massive unemployment in Maine.
- November 12-13, 1975: Senator Muskie questions Donald Rumsfeld during hearings on his nomination to be Secretary of Defense. Tries, without success, to get a commitment from Rumsfeld to buy the Maremont gun.
- March 1976: Secretary of Defense Rumsfeld under pressure from several members of the Senate Armed Services Committee to buy the MAG-58; Muskie puts pressure on him to buy the Maremont gun. Muskie also presses issue during hearings on FY 1977 Department of Defense Appropriation Authorization Bill.
- March 23, 1976: GAO issues report. Declares evaluation to be generally fair; finds no evidence of an "offset" deal.
- March 29, 1976: Army decision to buy the Belgian MAG-58.
- April 7, 1976: Maremont files protest with the General Accounting Office (GAO).

- May 19, 1976: Maremont/Maine Congressional delegation bring suit in District Court; hearing set for June 4, 1976.
- May 24-26, 1976: Senators Muskie and Hathaway try on Senate floor to gut standardization policy language in FY 1977 Department of Defense Appropriation Authorization Bill; settle on a compromise making the language non-retroactive and add an amendment requiring the Secretary of Defense to report all offset agreements.
- Late May-early June: Court hearing moved back to July 1, 1976. Army agrees not to award contract until court decision or July 7, whichever comes first.
- June 11, 1976: Senators Hathaway and Muskie amend the International Security Assistance and Arms Export Control Act of 1976 (PL 94-329) to expand reporting analysis requirements on Secretary of Defense to include offset agreements (i.e., purchases from as well as sales to foreign countries).
- June 17, 1976: Congressmen Cohen and Emery of Maine try on House floor to delete \$15.1 million for purchase of machine gun ultimately chosen from the FY 1977 Department of Defense Appropriation Bill; the attempt failed.

Thurmond, Strom	U.S. Senator, R-SC, member of Senate Armed Services Committee
Tindemans, Leo	Belgian Prime Minister
Tucker, Gardiner	Assistant Secretary General of NATO for Defense Support, 1977-1981
van den Boeynants, Paul	Belgian Defense Minister
Vest, George S.	- Director of the Bureau of Politico-Military Affairs, Department of State, 1974-1977 - Assistant Secretary of State for European Affairs, June 1977 to May 1981
Waible, Leo C., Col, USA	Chief, Missiles and Air Defense Systems Division, U.S. Army Air Defense Center, Ft Bliss, TX
Walsh, John	Assistant Secretary General of NATO for Defense Support, 1977-1981
Weyand, Frederick C., Gen, USA	Army Vice Chief of Staff, 1973-1974, and Army Chief of Staff, 1974-1976
White, Justice P.	Professional staff member, House Armed Services Committee
Woerner, Manfred	Chairman of the Defense Committee, West German Bundestag

- June 25, 1976: Conference Committee amended standardization language in FY 1977 Appropriation Authorization Act to require the Secretary to take into consideration cost, function, quality and availability of equipment purchased under the standardization policy.
- June 30-July 1, 1976: Colloquys on House and Senate floors on conference amendment to standardization language in FY 1977 Appropriation Authorization Bill: Question was whether conference amendment (requiring considerations of cost, etc.) limited the Secretary's authority to waive the Buy America Act. The House said yes; the Senate said no.
- July 1, 1976: District Court issues preliminary injunction enjoining Army from awarding machine gun contract until five days after the GAO reaches its decision.
- July 14, 1976: The FY 1977 DOD Appropriation Authorization Act signed by the President; contains language requiring the Secretary of Defense to report all offset agreements plus authority to waive Buy America Act for standardization procurements.

- July 22, 1976: The Senate Appropriations Committee reports favorably the \$15.1 million funding for machine guns in FY 1977 DOD Appropriation Bill but qualifies it as contingent upon resolution of the pending dispute (which was unnecessary since the court decision of July 1, 1976 had already ensured this).
- July 28, 1976: Senator Hathaway challenged, in the Senate Appropriations Committee, the reprogramming of \$5.9 million for purchase of machine guns during the remainder of FY 1976. Apparently the Maine delegation succeeded in killing this reprogramming as there is no evidence that any of the other three committees which would have to approve it ever held hearings (the House and Senate Armed Services Committees and the House Appropriations Committee).
- August 20, 1976: GAO decision goes against Maremont.
- August 25, 1976: Preliminary injunction against the Army awarding of contract expires unchallenged by Maremont/Maine Congressional delegation.
- September 3, 1976: Conference Committee reports FY 1977 DOD Appropriation Bill with \$15.1 million as qualified.

June 15, 1977: Hathaway amendment to the International Security Assistance Act of 1977 expanding again the reporting/analysis requirement on the Secretary of Defense with respect to certain offset agreements.

May 23, 1979: Telephone conversation with Maremont's Saco, Maine plant revealed that no more than 200 of the 1200 workers at the plant were affected by the loss of the contract (despite initial predictions that the plant might have to shut down to lesser claims predicting up to 600 layoffs). Furthermore, at least 175 of the 200 were recalled to work within one year as the result of new contracts. Only some 25 workers were not rehired.

APPENDIX 5

SPECIALTY METALS CHRONOLOGY

- 1972: Senate Armed Services Committee and House Appropriations Committee hearings on addition of specialty metals to protected list of goods in FY 1973 Department of Defense Appropriations Bill. DOD reacted mildly against proposal with Senate Appropriations Committee support; their attempt to delete the inclusion of specialty metals was defeated and the final bill included specialty metals.
- 1973: DOD, concerned with procurement restrictions, tried to get specialty metals off the list of restricted items but failed. The DOD Appropriation Act continued and would continue until 1977 (FY 1978) to protect specialty metals. Senate Appropriations Committee this year supported the specialty metals restriction.
- 1973/1974: Language was added to the FY 1974 and FY 1975 Appropriation Authorization Bills reaffirming support for the existing Buy America Act (41 U.S.C. 10a-d). The language was redundant with the Act, but did provide a "sense of the Congress."
- April 1975: Maremont Corporation, with factory in Saco, Maine, the frontrunner in competition for the new Army gun, receives competition from a Belgian gun, the MAG-58.

Allegations spread that the United States will buy the Belgian gun as part of a trade to get the Belgians to buy the United States' F-16 aircraft. The Specialty Metals Clause would apply to this procurement, theoretically requiring that the specialty metals for the Belgian gun (if it was purchased) would have to be melted in the United States.

February

1976: Army informs the General Accounting Office that specialty metals restrictions pose no problems in the gun contract; Fabrique Nationale will abide by the Specialty Metals Clause if it wins the contract.

March 29,

1976: Army decides to buy the Belgian MAG-58.

March 31,

1976: Department of Defense suggests to the Senate Armed Services Committee that a general waiver to the Specialty Metals Clause is necessary to facilitate standardization. Potential problems with the MAG-58 procurement due to these restrictions is a major impetus for DOD attempts to amend the clause to allow waiver.

April 7,

1976: Maremont files protest with the GAO.

May 17,

1976: Maremont files an addendum to its original protest to the GAO charging that the Belgian procurement violates the Specialty Metals Clause of the Appropriation Act;

also questions whether the use of United States specialty metals would affect original performance of gun.

June 22,

1976: Presidential amendment to his FY 1977 Budget Request asked that the waiver be added to the Specialty Metals Clause. Request was sent to the Senate Appropriations Committee as the House had already taken action on the bill, ironically, deleting the entire Buy National section.

July 22,

1976: Senate Appropriations Committee reports favorably the President's request for the waiver.

July 23,

1976: Muskie and Hathaway challenge, in a letter to the President, the reason for his requested waiver of the restrictions, noting that he had failed to report any offset agreements which might make such a waiver necessary as required by the FY 1977 Appropriation Authorization Bill which the President had signed on July 14, 1976.

July 30,

1976: Hathaway sends two additional letters to the President regarding the waiver. He agrees not to fight it if the waiver is not made retroactive, thereby excluding the MAG-58 from the possibility of a waiver.

August 2,

1976: Hathaway compromise amendment which reaffirmed that all offsets must be reported passes Senate.

August 9,

1976: Senate accepts entire FY 1977 DOD Appropriation Bill with waiver authority as amended.

August 20,

1976: GAO decision goes against Maremont, GAO sees specialty metals as no problem, noting that all parties had agreed to use United States metals and the Army had agreed to test the First Article carefully.

September 3,

1976: Conference Committee deletes the waiver with the Hathaway amendment and restores the language of the previous four years. This does not directly affect the MAG-58 as the President and DOD had agreed with Muskie and Hathaway that it was not subject to the waiver in any case.

January 4,

1977: The Undersecretary of the Army waives the Specialty Metals Clause under an already existing waiver authority: the exemption provided for waiver if United States products were not available. No United States manufacturer bid on the offer of Fabrique Nationale due to too small of quantity of required specialty metals!

June-July,

1977: FY 1978 Appropriations Hearings: Both Senate and House Appropriations Committees support inclusion of the waiver. DOD launched a major effort to include the waiver.

- July 19,
1977: Hathaway adds his amendment on the Senate floor requiring reporting of offsets to the waiver authority in the FY 1978 Appropriations Act.
- August 4,
1977: Waiver, with amendment, emerges intact from Conference Committee.
- September 21,
1977: FY 1978 Appropriations Act signed by President; waiver becomes law.
- April 4,
1978: Hearings in Senate Appropriations Committee on FY 1978 Appropriations for the General Services Administration; specialty metals industry attempts to add a restriction similar to DOD's but broader in effect (and without waiver) to the GSA Appropriations. The alleged problems with DOD leniency in granting waivers was used as rationale; attempt fails.
- May 6, 1978: Opponents of standardization in the House Armed Services Committee succeed in adding language identical to the traditional DOD Appropriations restriction (without the waiver authority) to the House version of the FY 1979 Appropriations Authorization Act. Attempts to add the waiver authority on the House floor fail (May 24, 1978).
- July 31,
1978: The Conference Committee on the FY 1979 Appropriation

Authorization deletes the House Armed Services
Committee's specialty metals restriction.

July/October,

1978: FY 1979 Appropriation Hearings: Major industry effort
fails to remove the waiver. Both Appropriation
Committees report the waiver intact.

APPENDIX 6

MAG-58/SPECIALTY METALS

CHRONOLOGY

- 1972: Senate Armed Services and House Appropriation Committee hearings lead to inclusion of Specialty metals in list of restricted goods in DOD Appropriations Act for FY 1973.
- 1973: DOD tries to get specialty metals off list for FY 1974; attempt failed and specialty metals remain on list until FY 1978 Appropriations Act.
- 1973/1974: Buy America duplicate language added to FY 1974 and FY 1975 DOD Appropriation Authorization Acts.
- April 1975: Maremont Corporation, a machine gun manufacturer with facilities in Saco, Maine discovers that it has competition from a Belgian machine gun manufacturer in pending Army procurement of a new machine gun for armored vehicles. Allegations are made that the Belgian gun is part of a deal to get the Belgians to buy the United States F-16 aircraft. Specialty Metals restrictions would apply to procurement of the Belgian gun.

- August 7, 1975: Senator Muskie (D-ME) requests the General Accounting Office (GAO) to monitor the competition. He accuses the Army and DOD of an under-the-table deal which will result in "massive" unemployment in Maine.
- November 12-13, 1975: Senator Muskie questions Donald Rumsfeld during hearings on his nomination to be Secretary of Defense. Tries to get a commitment from Rumsfeld to buy the Maremont gun; he fails.
- February 1976: Army informs the General Accounting Office that the specialty metals restrictions will pose no problems in the gun contract. Fabrique Nationale (FN) will abide by the Specialty Metals Clause if it wins the contract.
- March 1976: Members of the Senate Armed Services Committee put pressure on Secretary of Defense Rumsfeld to buy MAG-58; Muskie puts opposite pressure on. Muskie also pressures Army during hearings on FY 1977 DOD Appropriation Authorization Bill.
- March 23, 1976: GAO issues report. Declares evaluation to be generally fair; finds no evidence of an "offset deal."
- March 29, 1976: Army decision to buy the Belgian MAG-58.

- March 31, 1976: DOD witness suggests to the Senate Armed Services Committee that a waiver to the Specialty Metals Clause may be necessary to facilitate standardization. Impending MAG-58 procurement part of the impetus for DOD action.
- April 7, 1976: Maremont files protest with the General Accounting Office.
- May 17, 1976: Maremont files an addendum to its original protest to the GAO charging that the Belgian procurement violates the Specialty Metals Clause; Also questions whether use of United States melted specialty metals (as the Army/FN have agreed to) will affect (adversely) the performance of the MAG-58.
- May 19, 1976: Maremont/Maine Congressional delegation bring suit in District Court; hearing set for June 4, 1976.
- May 24-26, 1976: Senators Muskie and Hathaway try on Senate floor to gut standardization policy language in the FY 1977 DOD Appropriation Authorization Bill; settle on a compromise making the language non-retroactive and add an amendment requiring the Secretary of Defense to report all offset agreements.

Late May-Early
June 1976:

Court hearing moved back to July 1, 1976; Army agrees not to award contract until court decision or July 7, 1976, whichever comes first.

June 11, 1976:

Senators Hathaway and Muskie amend the International Security Assistance and Arms Export Control Act of 1976 (PL 94-329) to expand reporting and analysis requirements on Security of Defense to once again include offset agreements.

June 17, 1976:

Congressmen Cohen and Emery of Maine try on House floor to delete \$15.1 million for purchase of the machine gun ultimately selected from the FY 1977 DOD Appropriation Bill; the attempt failed.

June 22, 1976:

Presidential amendment to the FY 1977 Budget Request asked for a waiver to the Specialty Metals Clause in the FY 1977 DOD Appropriations Bill; Request was almost identical to that provided by DOD during March 31, 1976 hearings. Request went to the Senate Appropriations Committee as the House had already taken action on the bill, ironically, deleting the entire Buy National Section.

June 25, 1976:

Conference Committee amended the standardization language in the FY 1977 DOD Appropriation Authorization Act to require the Secretary to take

into consideration cost, function, quality and availability of equipment purchased under the standardization policy.

June 30-July 1,
1976: Colloquys on House and Senate Floors on Conference Amendment to FY 1977 DOD Appropriation Authorization Act; Senate feels the amendment does not limit the Secretary's authority to waive the Buy America Act while the House feels it does limit his authority.

July 1, 1976: District Court issues preliminary injunction enjoining Army from awarding machine gun contract until five days after the GAO reaches its decision.

July 14, 1976: The FY 1977 DOD Appropriation Authorization Act signed by the President; contains language requiring the Secretary of Defense to report all offset agreements plus authority to waive Buy America Act for standardization procurements.

July 22, 1976: The Senate Appropriations Committee reports favorably the \$15.1 million funding for machine guns in the FY 1977 DOD Appropriation Bill but qualifies it as contingent upon resolution of the pending dispute. Also reports favorably the President's request for a waiver to the Specialty Metals Clause.

- July 23, 1976: Muskie and Hathaway challenge the President's rationale for the waiver amendment; they note he has identified no systems which fall under the off-set rubric as required by the FY 1977 DOD Appropriation Authorization Act which he signed on July 14, 1976.
- July 28, 1976: Senator Hathaway challenged, in the Senate Appropriations Committee, the reprogramming of \$5.9 million for purchase of machine guns during the remainder of FY 1976. Apparently the Maine delegation succeeded in killing this reprogramming as there is no evidence that any of the other three committees which would have to approve it ever held hearings (the House and Senate Armed Services Committees and the House Appropriations Committee).
- July 30, 1976: Hathaway offers a deal to the President in the second of two letters sent this day. If the waiver is made non-retroactive (exempting the MAG-58 case from the waiver) he will not fight the waiver.
- August 2, 1976: Hathaway compromise amendment which reaffirms that all offsets must be reported passes the Senate.
- August 9, 1976: Senate accepts the FY 1977 DOD Appropriation Bill with waiver authority for DOD as amended by Senator Hathaway.

- August 20, 1976: GAO decision goes against Maremont; Specialty Metals Clause seen as no problem to legal procurement of Belgian gun--requirements of Clause have been agreed to by all parties.
- August 25, 1976: Preliminary injunction against the Army awarding of contract expires unchallenged by Maremont/Maine Congressional delegation.
- September 3, 1976: Conference Committee deletes the Specialty Metals waiver with the Hathaway amendment and restores the language of the previous four years. (Act also contains \$15.1 million for machine gun, as qualified.)
- January 4, 1977: The Army waives the Specialty Metals Clause for the MAG-58 because no United States suppliers of specialty metals are interested in supplying the small quantities required by FN. This exemption authority was in the original Clause; the waiver the DOD sought was broader than the authority used here. The failure to bid will prove to be embarrassing to the United States specialty metals industry.
- June 15, 1977: Hathaway amendment to the International Security Assistance Act of 1977 expands again the reporting

and analysis requirement on the Secretary of Defense with respect to certain offset agreements.

- June-July 1977: FY 1978 DOD Appropriations Hearings: Both Appropriations Committees, under heavy DOD pressure support the waiver provision for the Specialty Metals Clause.
- July 19, 1977: Hathaway adds his amendment on the Senate Floor requiring reporting of offsets to the waiver authority in the FY 1978 DOD Appropriations Act.
- August 4, 1977: Waiver, with amendment, emerges intact from the Conference Committee.
- September 21,
1977: FY 1978 DOD Appropriations Act signed by President; waiver becomes law.
- April 4, 1978: Specialty metals industry tries to amend the FY 1979 General Services Administration Appropriations with an amendment similar to the DOD Specialty Metals Clause; amendment would add similar restrictions but would apply to a broader area of government procurement; attempt fails.
- May 6, 1978: Opponents of standardization in the House Armed Services Committee succeed in adding language identical to the traditional DOD Appropriations restriction (without the waiver authority) to the

House version of the FY 1979 Appropriations Authorization Act. Attempts to add the waiver authority on the House floor fail (May 24, 1976).

July 31, 1978: The Conference Committee on the FY 1979 DOD Appropriation Authorization deletes the House Armed Services Committee's specialty metals restriction.

July/October 1978: Major industry effort to remove the waiver during hearings on the FY 1979 Department of Defense Appropriation Bill fails. Both Appropriations Committees reported the waiver intact.

May 23, 1979: Telephone conversation with Maremont's Saco, Maine plant revealed that no more than 200 of the 1200 workers at the plant were affected by the loss of the contract (despite initial predictions that the plant might have to shut down to lesser claims predicting up to 600 layoffs). Furthermore, at least 175 of the 200 were recalled to work within one year as the result of new contracts. Only some 25 workers were not rehired.

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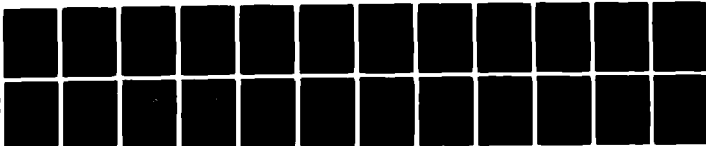
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